JPRS 78305

16 June 1981

China Report

AGRICULTURE

No. 146

FBIS FOREIGN BROADCAST INFORMATION SERVICE

NOTE

JPRS publications contain information primarily from foreign newspapers, periodicals and books, but also from news agency transmissions and broadcasts. Materials from foreign-language sources are translated; those from English-language sources are transcribed or reprinted, with the original phrasing and other characteristics retained.

Headlines, editorial reports, and material enclosed in brackets [] are supplied by JPRS. Processing indicators such as [Text] or [Excerpt] in the first line of each item, or following the last line of a brief, indicate how the original information was processed. Where no processing indicator is given, the information was summarized or extracted.

Unfamiliar names rendered phonetically or transliterated are enclosed in parentheses. Words or names preceded by a question mark and enclosed in parentheses were not clear in the original but have been supplied as appropriate in context. Other unattributed parenthetical notes within the body of an item originate with the source. Times within items are as given by source.

The contents of this publication in no way represent the policies, views or attitudes of the U.S. Government.

PROCUREMENT OF PUBLICATIONS

JPRS publications may be ordered from the National Technical Information Service, Springfield, Virginia 22161. In ordering, it is recommended that the JPRS number, title, date and author, if applicable, of publication be cited.

Current JPRS publications are announced in Government Reports Announcements issued semi-monthly by the National Technical Information Service, and are listed in the Monthly Catalog of U.S. Government Publications issued by the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402.

Indexes to this report (by keyword, author, personal names, title and series) are available from Bell & Howell, Old Mansfield Road, Wooster, Ohio 44691.

Correspondence pertaining to matters other than procurement may be addressed to Joint Publications Research Service, 1000 North Glebe Road, Arlington, Virginia 22201.

JPRS 78305

16 June 1981

CHINA REPORT

AGRICULTURE

No. 146

CONTENTS

PEOPLE'S REPUBLIC OF CHINA

I. GENERAL INFORMATION

National

Rely on Policy, Science To Increase Grain Production
(Hou Xueyu; RENMIN RIBAO, 6 Mar 81) 1

Increase Per Unit Yield of Paddy Rice, Experts Urge
(Liu Jianchu; ZHEJIANG RIBAO, 26 Mar 81) 7

Composition, Increased Yields of Food Grains Discussed
(Hou Xueyu; GUANGMING RIBAO, 29 Mar 81) 9

Cultivation of Water Surfaces as Well as Farmland Urged
(Yong Quan; RENMIN RIBAO, 9 Apr 81) 15

DDT Must Not Be Used on Fruit, Vegetables, Tea, Tobacco
(ZHONGGUO CAIMAO BAO, 16 Apr 81) 17

'RENMIN RIBAO' Eulogizes Deng Zihui
(Qiang Yuangan, Lin Bangguang; RENMIN RIBAO, 14 May 81) 19

Briefs

New Wheat Strains 28
Meeting on Suburban Enterprises 28
Advanced Irrigation Work Commendations 28
Qinghai-Xizang Plateau Exploration 28
Edible Oil Output 29

Anhui

Briefs

Spring Sowing 30
Rapeseed Output 30
Wheat Harvest 30
Fire Prevention Conference 30

[III - CC - 82]

Fujian

Economic Value of Raising Beef Cattle Outlined
(Lin Rong; FUJIAN RIBAO, 26 Mar 81) 31

Briefs
Tong Oil Production 33

Gansu

New Breed of High Mountain Fine Wool Sheep Reported
(RENMIN RIBAO, 10 Apr 81) 34

Briefs
PLA Units 35

Guangdong

Good Results in Spring Planting, Production Work
(Nong Sheng; NANFANG RIBAO, 10 Apr 81) 36

Briefs
Tornado Hits Brigades 38
Hailstorms Affect Counties 38
Rain Damage 38
Commune-Run Enterprises 38
Spring-Harvested Crops 38

Guangxi

Physiologist Develops Test Tube Cultivation of Seedlings
(Shen Ronghua, Xu Zhengde; JIEFANG RIBAO, 15 Apr 81) 39

Briefs
Nanning Prefecture Economic Crops 41
Natural Calamities 41

Hebei

Hebei Province Announces Start of Spring Afforestation Work
(HEBEI RIBAO, 10 Mar 81) 42

Reforestation With Trees Suited to Locations Stressed
(Han Dunyi; HEBEI RIBAO, 12 Mar 81) 45

Afforestation Advocated as Water Control Measure
(Wang Xujie, et al.; HEBEI RIBAO, 12 Mar 81) 46

Heilongjiang

Wheat Sowing Progress in Province Noted
(HEILONGJIANG RIBAO, 22 Apr 81) 48

Henan

Briefs
Antidrought Work 49

Hubei

Briefs
Rapeseed Output 50

Hunan

Briefs
Rapeseed Production 51
County Rapeseed Production 51

Jiangsu

Briefs
Peanut Production 52
Cotton Transplantation 52
Drought Spell 52
Commune Members' Incomes 52
Rapeseed Output 52

Jiangxi

Briefs
Rapeseed Output 53
Hybrid Rice Conference 53

Liaoning

Record Liaoning Grain, Soybean Output
(LIAONING RIBAO, 20 Mar 81) 54

Briefs
Grain Output 55
Private Plots 55
Prosperous Brigade 55
Paddy Fields 55

Ningxia

Increased Slaughter of Cattle as Result of Drought in Ningxia Reported
(Li Cuiying, Wang Licheng; NINGXIA RIBAO, 26 Mar 81) 56

Improvement of Freeze Semen in Ningxia Hui Autonomous Region
(Gao Wenji, et al.; NINGXIA RIBAO, 21 Mar 81) 58

Ningxia Sugar Output Reported at All Time High
(Yang Zhaohai; NINGXIA RIBAO, 16 Mar 81) 60

Shaanxi

Good Spring Planting Offers Hope for Bumper Harvest
(SHAANXI RIBAO, 1 Apr 81) 61

Hanzhong Prefecture Wheat Stripe Rust Disease
(SHAANXI RIBAO, 1 Apr 81) 63

Large Expansion of Area Devoted to Tobacco Planned
(Liu Zhenglao; SHAANXI RIBAO, 27 Mar 81) 64

Briefs

Pig Raising 66

Shandong

Briefs

Agricultural Production 67
Forestry Work 67
Wheat Harvest 67

Shanghai

Late Season Rice Protected From Cold by Spraying Leaves
(Chen Bingkui; JIEFANG RIBAO, 6 Apr 81) 68

Briefs

Suburban Summer Harvesting 69

Sichuan

Loans to Some Commune-Run Enterprises Stopped
(SICHUAN RIBAO, 18 Feb 81) 70

Experimental Aerial Photography Soil Survey Carried Out
(SICHUAN RIBAO, 21 Feb 81) 71

Research on Methane Production Achieves Good Results
(SICHUAN RIBAO, 1 Feb 81) 72

Mianyang Rice Production Outlook Surveyed
(SICHUAN RIBAO, 8 Feb 81) 73

Xinjiang

Briefs

Agricultural Production 75

Yunnan

Briefs

Rapeseed Production 76
Sugar Output 76

Zhejiang

Careful Use of Chemical Fertilizers Boosts Paddy Yields
(ZHEJIANG RIBAO, 31 Mar 81) 77

Nitrogenous Fertilizer Application, by Yin Daoming, Wang Weiguo
Proper Proportions, by Zhu Xiuqiao

Experiment Produces Higher Yield of Fish in Ponds
(ZHEJIANG RIBAO, 15 Mar 81) 80

Measures To Develop Cotton, Bast Fiber Production Given
(Shao Xiaozheng, Huang Caijun; ZHEJIANG RIBAO, 20 Mar 81). 81

Briefs
Agricultural Production 83
Spring Tea Harvest 83

NATIONAL

I. GENERAL INFORMATION

RELY ON POLICY, SCIENCE TO INCREASE GRAIN PRODUCTION

Beijing RENMIN RIBAO in Chinese 6 Mar 81 p 2

[Article by Hou Xueyu [0186 1331 3558], Botany Institute, Chinese Academy of Sciences: "How Should the Problem of Increased Food Output Be Looked At?"]

> [Text] Solution to the problem of increased grain output requires, first of all, establishment of an outlook of "grain in a larger sense." The road to increased output lies not in emphasis on increase in the rice, corn, and wheat area and the multiple cropping index, but rather in increases in per unit yields, and close attention to intensive farming. The basic issue is reliance on policies and on science.

Ours is a country with a population of one billion in which solution to the problem of getting enough food for everyone to eat requires self-reliant increases in grain output. How can grain output be increased? This is a problem that very much merits discussion.

Many proposals have been made for increasing grain production. Some people have suggested a need to stabilize the area planted to rice, wheat, and corn, permitting no further reductions. Others have advocated stabilization of the dual crop system in South China. Are these proposals valid?

I believe that it is necessary, first of all, to learn the reasons why speed of growth of grain output in China is slow. On the basis of my investigations during the past several years in north and south China, I would say that one major reason has been that peasants everywhere have been eating "out of a large common pot." Beginning from 1956, and more particularly since 1958, the speed of changes in production relationships in rural villages has outstripped productivity. When we were out examining the countryside, we frequently observed several oxen plowing the fields and 10 or 20 people working together on a plot of land, and a very great amount of enforced idleness. In October 1980 during an inspection trip in Anhui Province, I saw heartening changes. The Yingtou sugar production team in Liyuan Commune, Fengyang County had for more than 20 years depended on grain resold to them by the state, and every year, following the harvest, both adults and children would flee famine to beg for food. In 1977 following the overthrow of the "gang of four," though the weather had been normal, grain yields had still only been 66 jin per mu, and 8000 jin of grain returned by the state was consumed. In 1979, with large scale contracting with teams for production, grain yields were 200 jin per mu. In 1980, after institution of a system of contracting for production with households, grain yields were more than 400 jin per mu. During that year, in addition to grain for consumption and for use as seeds, more than 110,000 jin of grain was sold to the state, and more than 10,000 jin of peanuts was sold as well. This situation shows that with the same cultivated land, the same workforce, and the same production conditions, eating "out of a large common pot" and not eating "out of a large common pot" makes a vast difference. Once the peasants had true autonomy, only then did initiative arise, and only then was the most made of the advantages provided by the soil and the workforce. Inappropriate production relationships destroy peasant initiative, and must inevitably block growth in grain output.

Secondly, scant harvests from widely planted areas is also a major reason. In 1980, I made an investigation of the Tsaidam Basin in Qinghai Province, which had had a record high output of spring wheat. At many farms there, yields of winter wheat from small cultivated areas (15 mu) amounted to 2,000 jin per mu. One production team with 1,500 mu of cultivated land also had average yields of 1,000 jin per mu. But on most farms, average yields were only 200 to 300 jin per mu. This was because at that time higher authority required only that each farm guarantee a certain area for wheat, making no clear requirements for output. As a result, every farm planted a wide area, but harvested little, and they did not pool water, fertilizer, and manpower to do intensive farming. Another actual experience took place at the Muzhuang Production Brigade in Nanpi County, Hebei Province, where there are large tracts of salinized soil. In 1974, 2,650 mu of grain was planted, but yields were only 46.8 jin per mu. In 1978, the grainfield area was curtailed to 1,769 mu and water and fertilizer were concentrated for intensive farming; yields rose to 211.8 mu per jin. In 1979, the grainfield area was further reduced to 1,229 mu, and yields rose to 336.6 jin per mu. During these 2 years, this production brigade afforested sandy areas, grew reeds in low-lying areas, and grew hay or rotated hay and grain in saline areas in an all-around development of agriculture, forestry, and livestock raising. This shows that the size of grain output depends not only on the size of the area sown to grain. In many places in China, low grain yields are inseparable from the guiding mentality of planting large areas and reaping scant harvests.

Destruction of forests, the clearing of mountain lands for agriculture, and reclamation of lakes to make fields is another major reason for droughts, and adverse effects on grain production. Destruction of mountain forests and the clearing of land there not only hurts forestry, livestock raising and diversification, but also has bad consequences for grain production itself. In Shenxi Province, the masses say, "When the mountains are cleared to the peaks, people become poor and die out," and "when clearing is done on the mountains above, disaster ensues for the people below." In western Hunan Province, the forests on Xuefengshan were felled, and all the cleared mountain slopes, including those with a slope of more than 30 degrees, were cleared for the planting of corn, which was intercropped with young China fir seedlings. During a particularly heavy downpour of rain in 1979, more than 10,000 mu of ricefields at the foot of the mountain in Dongkou County were washed away, and more than 20,000 mu were stricken with drought. In 1958, trees were cut from the Dabieshan in Anhui

Province to make charcoal for the smelting of iron. As a result of erosion, flood and drought disasters subsequently increased in frequency. The reclamation of lakes to make farmland seemingly increases the amount of cultivated land, but because of the decrease in water reserves, floods occur during rainy seasons, and water is lacking for irrigation during dry spells. One example was the Chengxi Lake in Huoqiu County, Anhui Province, which stored 700 million cubic meters of water before reclamation. Following reclamation, it held only 0.75 cubic meters. When the rainy season came, more than 600 million cubic meters of water innundated every place. Not only were the lake fields that had been reclaimed innundated, but all the surrounding fields were drowned as well. The local people said, "Reclaiming the lake was like reclaiming the bottom of a kettle, and the water flooded over the sides of the kettle." Because of waterlogging, more than 100 million jin of grain was lost in 1980. Furthermore, as a result of the reclamation of the lake and the building of locks, fish were unable to migrate into the lake to spawn, and a great decrease occurred in the production of fish, crabs, and shrimps. This source of animal protein was lost, and there was no place for lotus, Gorgon fruit, wild rice, and such food plants to grow. Baitang Lake in Congyang County in Anhui formerly had 180,000 mu of water surface, but more than two-thirds of this water surface has now been reclaimed. Before reclamation, the lake produced more than 2 million jin of fish annually. In 1979, this dropped to somewhat more than 200,000 jin. Formerly catches of wild ducks amounted to more than 1 million, but now they are extinct. In 1980, one-third of the dikes surrounding the lowlying fields were breached. Someone rightly said, "When man wanted to go against the will of heaven and enclose the lake to make fields, heaven got rid of the reclamation and made it back into a lake."

The reckless changes made in the system of farming nationwide from south to north is another major reason. Ever since 1958, in particular, when the double cropping of rice was promoted in the south as a "panacea," total grain output in some places has declined contrary to expectations. In the fertile soil areas in the mid-reaches of the Yangtze River, for instance, total output from both crops of rice is about 1000 jin per mu. But should lots of rain fall and temperatures drop in the fall reducing output from the late rice crop, only the 700 jin from the early rice crop can be assured. However, a two crop system of rice and wheat (or rape) can bring consistent yields of 1,100 jin per mu. In 1980, Jiangsu Province organized high yield experiments on 100 mu continuous tracts at 26 different sites, which proved that a two crop system of rice and wheat can outstrip the yields of a triple crop system. In the case of Tianzhuang Production Brigade in Wantou Commune, Hanjiang County, double cropping of wheat and rice produced yields of 2,014 jin per mu, while three crops of rice produced only 1,515 jin per mu. In the area that runs from Taoyuan in Hunan to Taihe in Jiangxi, two crops of rice generally yield no more than 600 to 700 jin per mu. In the aforestated places, sunlight and atmospheric temperatures during July and August are good, (with sunlight amounting to 30 percent of the year's total). During this time of year, the early season rice is already in its final stage of growth when photosynthesis has greatly declined. Meanwhile, the late season rice is only in its seedling stage when leaf surfaces are extremely small and unable to make fullest use of the sunlight and warmth conditions prevailing during July and August. Winters are fairly cold in this area and the spring season warm, exactly the right temperature conditions for the vernalization stage of wheat and rape and able to play a "height of the season" role. However, since two crops of rice mean long term innundation of the soil with water, if green manure is intercropped with late season rice, opportunity is lacking for plowing it under and sunning the soil in winter, making the soil prone to some secondary gleying. Since soil porosity is poor, the plant roots have difficulty breathing, so even if greatly fertilized, the rice roots still are unable to fully absorb nutrients. The period of irrigation of the fields is long, and some natural enemies of insect pests such as ricefield spiders are drowned, or are unable to survive and reproduce, which aggravates the damage done to the late rice crop by diseases and insect pests. When two crops of the same kind are grown in a single year, the quantity of fertilizer required and the amount of seeds needed are particularly great. It may be seen that the area of double cropping of rice in South China should be curtailed rather than stabilized at its present unreasonable acreage.

On the northeastern plain, after the "great leap forward," the gaoliang, millet, and soybean acreage was reduced and the corn acreage expanded. More than 90 percent of the former soybean fields are intercropped with corn, and millet fields are also intercropped with corn. Corn is a warmth loving crop, and this is particularly true of medium-late ripening varieties, which if exposed to frost during the late growth stage, will have seriously reduced output. In addition, corn is a crop with large stems, which when intercropped with soybeans, shade the soybeans from the sunlight and reduce temperature to some extent. In the northeast, where the growing season is short, this results in reduced soybean output.

On the North China Plain, historically during years in which the autumn crop was the major one, the land lay fallow in a system of three crops every two years whereby gaoliang or corn was grown one year as an autumn crop, soybeans or millet was grown one year as a late autumn crop, and wheat was grown one year. Nowadays the farming system on the North China Plain has become a single one with winter wheat or corn accounting for about 80 percent of the acreage. Since 1958, curtailment has taken place in the area planted to millet and gaoliang, which resist drought and tolerate alkaline-saline conditions; and peanuts, which are suited to growing in sandy soil; soybeans, which tolerate wetness; and cotton, which tolerates slight salinity, have been squeezed out by wheat and corn. This has resulted not only in reduced output of cotton and oil bearing crops, but also the continuous planting of wheat and corn year after year has both plundered the soil of its fertility and made it lack organic matter. There is no nitrogen fixing bacterial activity from root nodules of pulses; nor is there any bean cake or peanut cake for use as fertilier, so soil fertility declines and grain output can never be increased.

Following analysis of the aforestated reasons, solution to the problem of increased grain output requires a certain direction of effort.

In addition to acting in accordance with economic laws and correcting production relationships not in consonance with productivity, it is necessary to establish, first of all, an outlook of "grain in a larger sense", and to smash the narrow view that grain is limited to paddy rice, wheat, corn, and such grass family foods, which are predominantly starch. It is necessary to start with human health requirements, and in addition to developing starch to calories, it is necessary also to develop meats, eggs, milk, and fish, which contain animal protein, and to develop goods that contain vegetable protein, and vegetable fat, as well as vegetables, fruits, and sugars. Therefore, when soybeans and sugerbeets are grown in the northeast, when soybeans and peanuts are grown in North China, when rape and peanuts are grown in southern regions, and when sugercane is grown in South China, they may not be dismissed as not being grain, nor may the raising of fish, crabs, shrimp, and wild ducks in lakes, or the growing of lotus, water chestnuts, Gorgon fruit, and wild rice on the edges of lakes be deemed something other than grain. Furthermore, further serious attention should be devoted to woody oil foods such as tea oil, Chinese chestnuts, walnuts, and persimmons. If one has this outlook of "grain in a larger sense," there will be no further stupidities such as the reclamation of lakes to create fields, the destruction of forests to clear land for agriculture, or destruction of the ecological balance, nor will there by any violation of the laws of planting crops in the soils where they grow best.

Increase in the per unit yields of all kinds of low output fields in the country is a major way to solve the problem of increased grain output. In South China, red and yellow soils and dryland slopes account for 180 million mu form which yields of grain are less than 200 or 300 jin per mu, and even as low as several score jin per mu. Low yield fields such as this have a strongly acidic reaction, so in addition to applications of nitrogenous, potash, and phosphate fertilizers as well as green manure, they need powdered limestone to neutralize their acidity. This is a key measure for increasing per unit yields from dryland crops such as corn, peanuts, pulses, and sweet potatoes. Were some small water conservancy projects to be built so that drylands could be converted to the growing of wheat and rice, and additional fertilizer applied, yields of 800 jin per mu would be easily attainable, Furthermore, in the cold waterlogged fields, the poorly drained fields, and the clayey fields in hilly and mountain gulch regions, most of which are highly acidic and where the daily period of sunlight is short, yields of rice are less than 300 or 400 jin per mu. In addition to using lime, especially needed is the construction around the mountains of flood prevention ditches and drainage ditches in a good system of drainage and irrigation so as to be able to dry out and sun the fields in order to avoid marshy conditions and secondary gleying, and a change to the growing of winter wheat, rape, and broad beans, and the growing in summer of mid-season rice with yields of 800 jin per mu not being difficult. In the numerous low yield fields with accumulations of water in the south where yields are now only 200 to 300 jin per mu, the principle contradiction is also with internal waterlogging and drainage problems, but yields of 800 jin per mu are also possible there.

Most of the low yield fields in North China contain salinized soil. For those that receive large amounts of summer rain in the Huang, Huai, and Hai plains, the key lies in solution to the spring seedling problem including the washing away of salt, avoidance of salt, tolerance of salt, and resistance to salinity whereby yields can be easily increased from 200 jin per mu to 500 jin per mu. For inland dryland areas with salinized low yield fields, field plots should not be excessively large; the ground should be leveled, and the irrigation and drainage systems should be separate from each other. Through the use of the advantages there in sunlight, water, and warmth, it is possible to increase yields of spring wheat from 200 to 300 jin per mu to 1000 jin per mu. There are about 500 million mu of low yield fields throughout the country. If intensively farmed, and given just the right amount of material and energy investment to increase yields by an average 200 to 300 jin per mu, the annual grain increase would be more than 100 billion jin.

Still another major means to increase yields is to encourage farming methods for use and nurture of the soil, meaning the reverse cropping or rotational cropping of pulse crops and grass grain crops, and dryland crops with paddy rice. The south should curtail its present double rice crop acreage in order to reduce the rotting of early rice crop seedlings in the Yangtze River basin and the crop losses or only half-filled glumes occassioned by autumn rains and low temperatures. Even in southern Guangxi and southern Guangdong where atmospheric temperatures are sufficiently high, some of the double crops of rice should be changed to a rotational cropping system of dryland-wetland-dryland so as to keep the paddy fields from being immersed in water for too long a period of time, thereby preventing secondary gleying. North China should adapt general methods to the local situation in an advocacy of a rotational cropping system of wheat, corn and soybeans, and peanuts. The northeast should exploit its advantages for growing soybeans and rape. In the northwest, spring wheat should be rotated with peas, broad beans, and rape. All these are major ways to increase yields.

In addition, where ecological and environmental conditions permit in the eastern part of the country, woody oil crops such as walnuts, Chinese chestnuts, persimmons, and large dates (as well as semi-tropical tea oil) should be grown, and in the south fruits such as citrus, lichees, longans, pineapple, and bananas should be developed. In the north, pears, peaches, apples, and grapes should be developed, and all should be regarded as increases in output of foodstuffs.

In the field of increased output of animal foods, major ways in which the country can increase output is to grow beef cattle in the south, yaks on the high plateaus, cattle and sheep in the grasslands of the northwest and along the seacoast in North China, while rural villages raise poultry and hogs, and rivers, lakes, and ponds grow fish. If the 300 to 400 million mu of water surfaces were used to raise fish, with suitable amounts of feed being provided them, figuring catches of only 30 jin per mu, 10 billion jin of protein could be provided.

In summary, solution to the problem of feeding China's 1 billion population requires, first of all, an outlook of "grain in a larger sense," and the way to increased output lies not in emphasis on expansion of the rice, corn, and wheat acreage or on the multiple cropping index but rather in raising per unit yields and giving serious attention to intensive farming. A fundamental problem is implementation of correct policies for the development of agriculture, reliance on policies, reliance on science, and steady heightening of the initiative of the masses to preserve and develop the productivity of agriculture.

9432
CSO: 4007/347

NATIONAL

INCREASE PER UNIT YIELD OF PADDY RICE, EXPERTS URGE

Changsha ZHEJIANG RIBAO in Chinese 26 Mar 81 p 2

[Article by XINHUA reporter Liu Jianchu [0491 6015 0443]: "Efforts To Increase Unit Yield Should Be taken as an Important Way To Develop Paddy Rice"]

[Text] Exerting great efforts to increase the unit area yield is an important way to develop our nation's paddy rice production. This is the important suggestion proposed by a group of specialists and professors at the scientific and technical discussion conference on the three "agricultural products" (paddy rice, freshwater culture, and fruit) recently held by the State Scientific and Technological Commission.

Paddy rice experts and professors analyzed the achievements and the present situation of paddy rice production in our nation. They all believed that paddy rice production occupies an outstanding position in our nation's production of food grains. Its yield in ordinary years constitutes about 40 percent of the nation's total yield of food grains. In some southern provinces (regions), it constitutes 70 to 90 percent of the yield of food grains of the locality. Since liberation, our nation's paddy rice production has developed greatly and the achievements have been outstanding. According to statistics of the eight provinces (regions) of Sichuan, Hunan, Jiangxi, Guangdong, Jiangxu, Hubei, Zhejiang, and Guangxi, the area of ricefields constitutes 63 percent of the total area of cultivated land. In 1979, the total yield of food grains showed a 1.85-fold increase over that in 1949—an average annual increase of over 6.6 billion jin. Rice grains constituted 70 percent of this. In the past, the key to increasing the paddy rice yield in our nation was to expand the area of paddy fields and to increase the multiple planting index, in addition to popularizing superior varieties, improving cultivation techniques, and changing production conditions. Viewing the present situation, the area of paddy fields in most regions has reached the saturation point, and further expansion will be difficult. To continue increasing the multiple planting index also has certain drawbacks. Therefore, the important way to develop paddy rice production at present is by increasing the yield per unit.

Some experts and professors believe the potential of the yield per unit of paddy rice is still great. In some counties, the yield per unit of paddy rice has reached over 1,600 jin, but in other counties it is only 600 to 700 jin. As long as we comprehensively utilize the achievements of agricultural science and technology, such as the popularization of superior varieties, the rational application of fertilizer, improvement of low-yielding fields, lowering of the level of underground water, improvement of cultivation techniques, and propagate present achievements, we can make small victories into big victories and achieve the goal of increasing the total yield of rice grains. In recent years, some regions have achieved high rice grain yields by adjusting the crop structure and planting systems in paddy fields. All [experts and professors at the conference] believed that to actively and firmly propagate achievements in these aspects, the following should be realized: 1) The total yield of rice grains must continue to rise. 2) The amount of commercial food grains submitted to the state and the average ration of food grains for each commune member must not be reduced. 3) Conditions favorable to the development of diversification should be created. 4) Conditions favorable to nurturing the fertility of the land must be created.

To increase the unit area yield of paddy rice, the experts and professors believed that it is also very important to grasp commercial food grain regions that are strategically significant in paddy rice production, organize multiple disciplinary and multiple departmental forces to carry out experiments well, create demonstration points, and use the experience of selected units to promote work in the entire area. For example, the yield of paddy rice in the Taihu valley, the Jianghan plain, the Boyanghu area, the Dongtinghu area, the Chuanxi plain, the Zhujiang delta, and the Hangjiahu plain occupies an important place in our province. Increasing yield per unit in these regions will greatly increase the total yield of paddy rice.

9296
CSO: 4007/372

NATIONAL

COMPOSITION, INCREASED YIELDS OF FOOD GRAINS DISCUSSED

Beijing GUANGMING RIBAO in Chinese 29 Mar 81 p 2

[Article by Hou Xueyu [0186 1331 3558], professor of the Plant Institute of the Chinese Academy of Sciences: "On Increasing the Production of Food Grains and the Viewpoint of Macrocosmic Foodstuff"--passages enclosed in slantlines printed in boldface]

[Text] Since the founding of the nation, our nation's agricultural production has developed in a big way but in general the rate of increase in food grains has been relatively slow. Compared to the needs of this great nation with a population of 1 billion, a great gap still exists. Therefore, the problem of how to develop the production of food grains self-reliantly is one that the people are concerned about. This article discusses how to view the composition and how to increase the yield of food grains.

Recently, some people have proposed that in order to increase the yield of food grains, the planting areas of such crops as paddy rice, wheat, and corn must be stabilized and not decreased. Others have proposed that the area of double season rice in the south must be stabilized. Are such proposals correct? I believe they do not suit our nation's actual situation. According to surveys I have made in the various southern and northern provinces and regions, I deeply believe that the situation of our nation's production of food grains must be changed. The viewpoint of macrocosmic foodstuff must first be established and the narrow view that food grains are limited only to the few kinds of starch-based graminaceous food grain crops of paddy rice, wheat and corn must be eliminated. Starting out from the needs of the human body, besides starchy food grains that provide calories, such foods as meat, eggs, milk and fish that provide animal protein and foods that provide plant protein, plant oil, vegetables, fruits, and sugar must also be developed. Why is this so? This is because ours is a nation with a wide territorial expanse and complex topography, soil texture and climate. There are a lot of mountainlands and hilly regions, there are less plains; the land is suitable for diversification and overall development. Undoubtedly, paddy rice, wheat, corn and sorghum are important food grain crops and they must be planted properly by suiting measures to local circumstances. But if our views are limited to planting these several kinds of graminaceous food grain crops and if we only produce single products, the masses will be bound and this will be unfavorable for realizing the principles of suiting measures to local circumstances, thus affecting the development of the superiorities of each locality. For a long time there have been too many lessons in this regard! For example, in the limestone mountain valley of Dutou commune in Yangshuo, Guangxi, originally 1,000 mu of peanuts were planted in dryland and the yield was 200-300 jin. After changing to paddy rice, the per mu yield was only 100 jin because of leakage. The "saline and acidic fields" of the coastal area of Guangdong were originally used to plant sugar cane, in which the per mu yield was 8,000-10,000 jin. After changing to paddy rice, the per mu yield did not surpass 300 jin. If we start out from the macrocosmic view of food crops, we will not mistakenly believe that we are not planting food grain crops when we plant soybean and beets in the Northeast, soybean and peanuts in Northern China, rape and peanuts in the south, and sugar cane in Southern China, and we will not consider cultivated fish, crabs, shrimp in lakes and lotus seeds, water chestnuts, Gorgon fruits, and edible wild rice stems along the banks of lakes as something other than food. Others, such as oil tea camellia, Chinese chestnuts, walnuts, and persimmons on mountainland and in hilly regions will all be regarded as providing us with food. With this macrocosmic view of food grains, we will not continue to encircle lakes to create fields and reclaim mountain lands which destroy the ecological balance, and we will not violate the pattern of planting according to the soil.

/In my view, the way to increase production of food grains is not simply emphasizing the expansion of the areas and multiple planting indexes of paddy rice, corn and wheat, but fine and careful planting to increase unit yield and emphasizing intensive farming./ For example, Muzhuang brigade of Nanpi County in Hebei Province, which owns large areas of saline soil, planted food grain crops over 2,650 mu in 1974. The per mu yield was only 46.8 jin and the total yield was 124,000 jin. In 1979, when the area of food grain crops was reduced to 1,229 mu, the per mu yield rose to 336.6 jin and the total yield reached 410,000 jin. The sowing area was less than half the original but the yield of food grains drastically increased, more than twofold. At the same time, the brigade forested the sandy land, planted reed in marshland, and planted grass or rotated grass and food grain crops in saline land, enabling overall development of agriculture, forestry and livestock production. In December 1979, I went to survey Xishuangbanna in Yunnan Province. In Pingba County, there were 680,000 mu of farmland and the average per mu yield of food grains was only over 300 jin, while one farm in neighboring Puwen County planted finely and carefully and the average per mu yield of food grains reached 1,800 jin. This fully shows that the drop in yield of food grains in many places in our nation is not due to a decrease in the planting area but is inseparable from the guiding ideology of planting widely but harvesting little.

Our nation has numerous varieties of low-yielding fields and their potential is great. Taking practical measures to increase the unit yield of these low-yielding fields has important significance in solving the problem of increasing food grain production. There are 180 million mu of lateritic and loess slopeland for dryland crops in the south. The per mu yield of food grains is less than 200-300 jin, and in some places the yield is only several dozen jin. These types of low-yielding fields all show strong acidic reactions. To increase the unit yields of dryland crops of corn, peanuts, beans and sweet potatoes, besides applying nitrogenous, phosphorous and potassium chemical fertilizers and green manure, application of limestone powder to neutralize the acidity of the soil is a key measure (it is possible to increase the unit yield by onefold). If small water conservancy projects can be built, part of the crops are changed to wheat and paddy rice, and application of fertilizers is increased, the per mu yield can reach 800-1,000 jin. In addition, the cold soaked fields, rusty paddy fields and loess muddy fields in the valleys of hilly regions are all strongly acidic soils. The duration of sunshine is short and the per mu yield of paddy rice is less than 300-400 jin. Besides applying lime, flood prevention trenches and drainage trenches around mountains should be especially built. The drainage and irrigation system must be built well so that the fields can be tilled when dry and the fields can be dried under the sun to prevent the soil from becoming marshland and from secondary gleization. If the crops are changed to planting wheat, rape, and broad beans in winter and planting intermediate rice, it is not difficult to produce a per mu yield of 800 jin. In many southern low-yielding fields that accumulate water, the present per mu yield is only 200-300 jin. If the problems of internal waterlogging and drainage are solved, it is possible to increase the per mu yield to 800 jin. The low-yielding fields in the north are mainly saline soils: One type is in the plains of the Yellow, Hui and Hai Rivers where there is a lot of rain in summer. The other type is the low-yielding salinized fields in the inland arid regions. In the regions of the Yellow, Hui and Hai Rivers, comprehensive measures should be used to solve the damage due to drought, waterlogging and salinity. In undertaking engineering measures, underground water in shallow layers must be developed, utilized, regulated and controlled to establish a drainage and irrigation system with separate trenches and channels. The drainage ditches should not accumulate water. Measures taken to carry out drainage by ditches and drainage by wells combined with fresh water irrigation from river channels and summer rain to wash away salinity are methods that can improve saline and alkaline land. At the same time, biological measures must also be taken to readjust the structure of agriculture, forestry and livestock production, change wide planting and small harvests to intensive production, reduce the area of fields of food grain crops, concentrate the limited water and fertilizer resources to build high-yielding and stable-yielding fields, appropriate land for forestation and tree planting (such as false indigo) in a big way, develop green manure and grazing grasses (such as alfalfa, sweet clover, sesbania), and raise domesticated animals to accumulate manure to fertilize the fields. In the fields, jujube and food grain crops can be interplanted. Sunflower and wolfberry can be planted in saline and alkaline land. Ponds near villages should be rebuilt to raise fish and plant reed, to use forestation to stimulate livestock production, and to use livestock production to stimulate agriculture for comprehensive development. The low-yielding, salinized fields in inland arid regions must be leveled and prepared well. The size of the plots must not be too large. The irrigation and drainage systems must be separate. The superiority of light, water and heat of the locality must be utilized. In this way, per mu yield of spring wheat will possibly increase from 200-300 jin to 1,000 jin. The nation has some 500 million mu of low-yielding fields. If intensive farming and appropriate amounts of substances and energy are scientifically expended to produce an average per mu increase of 200-300 jin, the increase in yield of the entire year will be 100 billion jin of food grains.

/The planting system of using the land and nurturing the land is another important measure to increase food grains./ Since 1958, the nation has blindly and whimsically changed the planting system, seriously affecting food grain production and causing us to suffer a lot. In the south, the planting of double season rice "in one big blow" was an example. In the middle and lower reaches of the Changjiang, because the temperature is insufficient in early spring, generally during March and April seedlings of early rice easily rot, while in regions where there is more autumn rain late rice is frequently affected by low temperatures during the last 10 days of September, causing the plants to flower without fruiting. Therefore, propagating double season rice "in one big blow" in the south in some regions has produced decreased yields. The science committee of Hexian in Anhui conducted an experiment at the Erliban production brigade on the banks of the Changjiang in 1979 and 1980. The per mu yield of double croppings of rice and wheat reached over 1,500 jin, while the per mu yield of double season rice was less than 1,000 jin and the cost of planting double season rice greatly surpassed that of double croppings. Double season rice is soaked in water for long periods. If the late rice crop is companion planted with green manure, there is no opportunity to till and turn the soil under and there is no opportunity to dry the fields in winter. This easily causes secondary gleization of the soil. Because aeration of the soil is poor, the roots of rice plants have difficulty breathing, and even when a lot of fertilizer is applied the roots cannot fully absorb the nutrients. Irrigating the fields for a long period will drown some natural enemy harmful insects such as rice field spiders. In addition, planting two seasons of the same crop requires more fertilizers and more seeds.

Also, for example, the planting area of sorghum, millet and soybean has been reduced again and again in the Northeast plain and the planting area of corn has been blindly expanded. As a result, yields have often dropped because of frost damage. The Bashang area in Hebei Province had always planted naked oats that were suited to the local climatic conditions; the average per mu yield reached over 200 jin. From 1975 to 1978, Mexican wheat varieties were blindly propagated over large areas. The per mu yield averaged only over 100 jin, and in some places not a single grain was harvested. In 1976 alone, the total drop in food grains throughout the entire Bashang area reached 190 million jin.

Again, for example, in the North China Plain, historically the triple cropping in 2 years system of mainly autumn food grain crops and winter fallow was popular. The autumn crop was sorghum or corn, the late autumn crop was soybean or millet, and the other crop was wheat. At present, the planting system is very simple. Winter wheat and corn generally constitute 80 percent of the planted area. Since 1958, the area of cultivation of drought-resistant and alkaline-tolerant millet, and drought-resistant and alkaline-tolerant sorghum that is also tolerant to waterlogging, has been reduced again and again. Peanuts that are adapted to sandy soil, soybean that is tolerant to dampness and cotton that is tolerant to slightly saline soil have also been squeezed out by wheat and corn. This has not only caused reduced yields of cotton and oil-bearing crops, but also because of the singular emphasis on the double cropping a year system of wheat and corn, continuous cropping of the same crops continued year after year, reducing soil fertility and depleting organic matter in the soil, there was no activity by the root nodule nitrogen-fixing bacteria of bean crops, there were no bean cakes and peanut cakes as fertilizers and feed, soil fertility dropped, and the yield of food grains still could not be increased.

In general, reform of the planting system should be carried out carefully. At present, bean crops and graminaceous food crops and reverse cropping and rotation cropping of dryland crops and paddy rice should be promoted. The present area of double season rice in the south must be greatly decreased; even in southern Guizhou and southern Guangdong where atmospheric heat is sufficient, double season rice should be planted in one part of the land and the triple crops of dryland crop, paddy rice and dryland crop should be planted in the other part of the land to avoid overly long soaking of rice fields and secondary gleization of the soil. Reverse cropping and rotation cropping of wheat, corn and soybean, and peanuts should be carried out by suiting measures to local circumstances in Northern China. The superiority of soybean and beets must be developed in the Northeast. Wheat must be planted with peas, broad beans and rape in rotation cropping in the Northwest.

/Suiting measures to local circumstances and diversification are important links which cannot be neglected in order to increase the production of food grains./

For a long time, because the macrocosmic view of food grains was not established, many regions disregarded the actual situation of the locality; they demanded that food grain crops be planted, and as a result grasslands were indiscriminately reclaimed, forests were destroyed and wastelands were reclaimed, and parts of lakes were encircled to create fields. Such activity not only harmed forestry, livestock production and diversification, but it also intensified damage by floods and drought or caused salinization of the soil, affecting the production of food grains. For example, one farm in northern Xinjiang reclaimed 410,000 mu of loam desert land. The land was irrigated but not drained, causing the level of underground water to rise, with the result that the salt content of the bottom layer surfaced and reached the surface soil through capillary effect. Production dropped in the third year, and in the fourth year the land had to be left uncultivated. Now there are already 190,000 mu of land in which halophytic plants can hardly grow. In the past, the loess plateau region of western Shanxi was covered by a very thick layer of loess. Now "the roots of things can be seen all over the place, the rocks are exposed," and drought occurs frequently. Yunnan Province gives 50 yuan of subsidy for each mu reclaimed. As a result, in many places the forests have been cut away and burned in order to reclaim land. In 1979 alone, over 10,000 forest fires occurred and over 10 million mu of forests were burned and destroyed.

Superficially, encircling lakes to create fields increases the area of cultivated land, but because the surface of lakes is reduced, the capacity to store water is decreased, and waterlogging frequently occurs during the rainy season and damage easily occurs during drought. Because of the activity of encircling the lakes and building flood gates, migration of fish to the lakes for spawning has been hindered, causing a loss in the source of animal protein foods such as fish, crabs, shrimp and aquatic birds, and of course there are no longer places for lotus seeds, Gorgon fruit and edible wild rice stems and such plant foods to grow. Chengxi Lake in Heqiu County, Anhui Province, is the only relatively large flood water retreat in the middle reaches of the Hui River. After encirclement and reclamation, the capacity of the regulatory reservoir during the flooding season was only 75 million cubic meters, there were over 600 million cubic meters of water that could not be stored, thus expanding the damage by floods and waterlogging. During last year's flooding season, the area in Yangang damaged by floods was 220,000 mu, and over 100 million jin of food grains were not harvested. In the 1950's, the Anqing area produced about 70 million jin of fish annually. Because of encircling lakes to create fields, this has now dropped to 15 million jin. In the past the annual yield of crabs was over 300,000 jin, while last year it was only 80,000 jin.

In general, for each different type of region, the natural patterns must not be violated in insisting on planting more food grains. One must start out from the macrocosmic view of food grains based on the actual situation of each locality to develop diversification and exert efforts to develop the production of animal foods, woody oil-bearing foods and fruits. In the south, beef cattle and similar herbivorous animals must be raised properly: yaks must be raised on plateaus, cattle and sheep should be raised well in the northwestern grasslands and the north China coastal regions. The farm villages should raise domesticated fowl and hogs in a big way. Fishery production should be actively developed in inland rivers, lakes and in coastal waters. In addition, in the eastern half of our nation walnuts, Chinese chestnuts, persimmons, jujube and subtropical oil tea camellia and similar woody oil-bearing plants should be popularized. In the south, such fruits as oranges, litchi, longan, pineapples and bananas should be developed. In the north, pears, peaches, apples, grapes, etc. should be planted. These are all indispensable measures to increase the yield of foods.

/Of course, generally speaking, the root problem is still implementation of the correct policies to develop agriculture, mobilization of the enthusiasm of the farmers, protection and development of the productivity of farm villages./ Since 1956, and especially since 1968, the rate of change in the productive relationships in farm villages has surpassed that of productivity. The leftist activity in agricultural policy and taking "from the big pot" harmed the enthusiasm of farmers. These are the main reasons that hindered the development of food grain production. For example, the Yantoutang production team of Liyuan commune in Anhui Province that I surveyed has been eating resold grains year after year since 1956. Each autumn, adults and children live a life of hunger and begging. In 1977, after the overthrow of "the gang of four," the weather was normal, but the entire team produced only over 34,000 jin of food grains, and it still ate over 8,000 jin of resold grains. But in 1979, work was contracted to the group, and the same 520 mu of cultivated land produced over 100,000 jin of food grains and 15,000 jin of peanuts. In 1980, families were contracted to fulfill production quotas: the total yield of food grains reached over 200,000 jin and the yield of peanuts reached over 20,000 jin. That year, besides keeping rations and seeds, over 110,000 jin of food grains and over 10,000 jin of peanuts were sold to the state. It can be seen that on the same cultivated land, with the same labor force and other productive conditions, taking "from the big pot" and not "taking from the big pot" are very different. The farmers have their true autonomy and productive enthusiasm has been heightened, and only in this way can the guiding ideology of the macrocosmic view of food grains be better implemented, thus fully developing the superiorities of our nation's land and manpower.

9296
CSO: 4007/377

CULTIVATION OF WATER SURFACES AS WELL AS FARMLAND URGED

Beijing RENMIN RIBAO in Chinese 9 Apr 81 p 2

[Article by Yong Quan [3057 3123]: "Rivers and Lakes Are All 'Farmland'"]

[Text] On 1 April RENMIN RIBAO published an article on farm villages entitled "Advocating 'Treating Soil Like Gold.'" The article said: "If the small ponds and small dams that are not conveniently managed by the collective and are left unused in ordinary years can also be contracted to the commune members to plant Indian lotus, cultivate fish, and grow leaf mustard, then how much more social wealth can be created!" This is very true.

Our nation has a long coastline, and in addition there are about 250 million mu of water surface on inland lakes, rivers, ponds and reservoirs. The area suitable for cultivating fish amounts to 75 million mu. There have already been bitter lessons in how to utilize this water resource. Some years ago, under the guidance of the "leftist" ideology, in order to expand the area of farmland some localities blindly encircled lakes to create farmland, and the mistaken campaign to "plant food grain crops up to the top of mountains and transplant rice crops to the center of lakes" was launched. Some newspapers also propagandized "the fragrance of rice in the middle of Indian lotus ponds," and the campaign to unilaterally destroy ponds to plant food grain crops was carried out. This way of doing things had serious results. In Hubei Province, which has been known as "the province with a thousand lakes," three-quarters of the area of lakes has been encircled. The famous Hong Hu, known for "its waves beating against waves," has become a lake "of grass beating against grass." The Baidanghu in Zongyang County, Anhui Province, originally had a water surface of 180,000 mu. Later, two-fifths were encircled and reclaimed. Before encircling areas of the lake, the annual yield of fish was 2 million jin. By 1979, this had dropped to 200,000 jin. In the past, the count of wild ducks reached over 1 million, but now they have become extinct. In 1980, the region suffered from floods and one-third of the dikes protecting the fields were washed away. Some people have described it well: "People go against the patterns of nature to encircle lakes and create fields, Heaven returns the fields to the lakes." The facts show that in blindly encircling lakes to create fields, the gain is not worth the loss. Returning land to the lakes according to plan must be carried out.

When people mention the natural conditions of the locality, they always say: "There are mountains, there is water, there is only a little farmland." In other words, they believe there is too little farmland and the potential for development is not great. In fact, as long as we open up new areas of production, as long as we are skillful in "relying on the mountains for what they produce and relying on water for what it produces," the mountains will become treasure mountains and water will become a treasure chest. Some scientists have proposed the viewpoint of establishing overall foods, starting out from the needs of human health to develop starchy food grains that satisfy the needed calories and then develop meats, eggs, milk and fish that contain animal protein as well as vegetable oils and vegetables, fruits and sugar that contain plant proteins. I believe that we should also establish the viewpoint of "overall farmland," i.e., the viewpoint of soils of the five colors, "red, yellow, blue, white and black." Red refers to the red soil of Jiangxi and Hunan Provinces. Yellow refers to the loess plateau of the Northwest. White refers to saline and alkaline land. Black refers to the chernozem of the Northeast. Blue refers to water surfaces.

For many years, because some localities did not emphasize implementation of the guideline of overall development of agriculture, forestry, livestock production, sideline production and fishery, the strange phenomenon of "investigating responsibility for 1 mu of wasteland but disregarding responsibility for 10,000 mu of wasted water" occurred. At present, the water surface being used to cultivate fish is still less than two-thirds of the water surface suitable for fish cultivation. Also, unit yields differ widely. The national average per mu yield of fish is only 40 jin, with the highest reaching 400-500 jin, or even surpassing 1,000 jin. We must farm the land and we should also "farm" the water. We must utilize water surfaces as we utilize farmland. The knowledge of scientific cultivation of fish must be popularized so that large and small water surface areas will become rich "superior fields on water," and "animal farms on water."

9296
CSO: 4007/368

DDT MUST NOT BE USED ON FRUIT, VEGETABLES, TEA, TOBACCO

Beijing ZHONGGUO CAIMAO BAO [CHINA FINANCE AND TRADE JOURNAL] in Chinese 16 Apr 81 p 4

[Article: "666 and DDT Are Farm Chemicals That Leave Highly Poisonous Residues; They Cannot Be Used on Vegetables, Fruits and Melons, Tea Leaves, or Tobacco Leaves"]

[Text] Comrade Editor:

To implement the urgent notice by the Ministry of Hygiene, the Ministry of Agriculture and Forestry, and the Ministry of Commerce to cease using DDT, 666, and such farm chemicals that leave highly poisonous residues and highly toxic organic phosphorous farm chemicals on tea leaves, vegetables, melons and fruits, and tobacco leaves, our station has changed the supply of small packages of 666 powder to collective supply for the production teams for use on paddy rice and other crops on which such farm chemicals c[illegible] used. Our paper published a report on 3 March concerning the production shop [illegible] Dongjiao supply and marketing cooperative of Wenchang County in Guangdong Province which supplied 666 powder in small packages, and suggested that all supply and marketing cooperatives do the same. We believe this is not the right way. If farmers buy small packages of 666 powder to control diseases and insect pests on vegetables and melons and fruits, it will be harmful to the people's health.

Fang Mingyan [2455 2494 8746], Accumulation, Warehousing, Distribution, and Marketing Cooperative of Dongxi, Shiyang Region, Taishun County, Zhejiang Province.

Response by the Chemical Fertilizers and Farm Chemicals Department of the National Supply and Marketing Cooperative:

The properties of 666 and DDT are stable, they decompose slowly, and they easily remain on crops. After ingestion, they will cause adverse effects to man's physical health. Therefore, the agricultural and commercial departments and related departments have prohibited their use on such crops as tea, vegetables, melons and fruits, and tobacco. To prevent damage to these crops by insect pests, dichlorvos, trichlorfon, or dimethoate can be used. These farm chemicals are effective, they evaporate and decompose easily, they do not leave toxic residues, they are safe to use, and they are sold at all supply and marketing cooperatives.

At present, most of the various farm chemicals supplied to the farm villages are packaged in specifications suitable for purchase and use by the collective production units of commune brigades or farms. For example, each sack of 666 powder has a net weight of 25 jin. One sack can be used for 10 to 20 mu of land. One production team can buy a sack and use it up. Even if it is not used up, the collective unit can store it. Therefore, it generally is sold in whole sacks.

Some supply and marketing cooperatives sell small packages of farm chemicals to adapt to the needs of the operational groups and commune member families after implementing the farm village economic policy. But one must heed the warning not to use them on melons and fruits, tea, tobacco, or vegetable crops.

In addition, when selling small packages of solid farm chemicals such as 666 powder, the repackaging must not be done at the sales department; this is to prevent the powder from flying about and causing pollution. When selling small packages of farm chemicals, an explanation must be included to prevent misuse and abuse. When using the chemicals, they must not come into contact with food, so as to prevent poisoning.

9296
CSO: 4007/389

'RENMIN RIBAO' EULOGIZES DENG ZIHUI

HK310204 Beijing RENMIN RIBAO in Chinese 14 May 81 p 5

[Article by Qiang Yuangan [1730 6678 3227] and Lin Bangguang [2651 6721 0342]: "Deng Zihui, Outstanding Organizer of Agricultural Collectivization in Our Country"]

[Text] After the victory of the Democratic Revolution, Comrade Deng Zihui devoted all his energies to the cause of agricultural collectivization in our country and made outstanding contributions in both planning and work. However, his name was for a long time covered by the dirt of history. Since the smashing of the "gang of four" and particularly since the 3d plenary session of the 11th CCP Central Committee, Deng Zihui has finally been rehabilitated along with the correction of leftist mistakes by the party. At present, people will naturally remember even more his outstanding achievements.

He Firmly Advocated Agricultural Collectivization

During the Democratic Revolution, Deng Zihui was one of the principal founders of the revolutionary base area in the southern part of Fujian Province. He was an outstanding leader of the peasants' movement led by our party, and he made tremendous contributions. After liberation, he was resolute in leading the agrarian reform. When making important policies dealing with agrarian reform and the countryside, the party highly respected his views. In 1953, the party announced the general line for the transitional period and our country entered a new stage of planned socialist construction and all-round socialist transformation. To strengthen leadership over agricultural collectivization, the CCP Central Committee specially set up a rural work department and made Deng Zihui its director. This showed the great confidence the party had in him and the hopes the party pinned on him.

Deng Zihui was very enthusiastic and steadfast about collectivization. After the agrarian reform, polarization began to appear in the countryside. With a clear-cut attitude, he stated: If this is allowed to develop, the agrarian reform will be in vain. The moment the rural work department was formed, he solemnly announced to all the personnel. The main task of the central rural work department is to organize the peasants and accomplish the socialization of agriculture. In the first, second and third national rural work conferences and the subsequent national conferences he presided over, he repeatedly expounded: The "general policy and general task" of rural work is to realize collectivization. To increase agricultural production, we must rely on mutual cooperation. "We cannot mainly pin our hopes on individual peasants." Small-scale peasant economy and socialist planned economy contradict each other. If the "shortcomings" of 100 million peasant households can be exploited, collectivization will be more easily brought in line with the state plan. "We absolutely cannot waver from the policy of bringing about the socialist transformation of the small-scale peasant economy." This showed the correctness of Deng Zihui's understanding of socialist transformation, his steadfast stand and his positive attitude.

When Deng Zihui was in charge of the central rural work department, he always attached great importance to proceeding from actual conditions in China and to exploring and solving the problems of measures, speed and form of agricultural collectivization in our country. Under the leadership of the CCP Central Committee and Comrade Mao Zedong and in accordance with the spirit of the general line and the two mutual aid and cooperation decisions of the party during the transitional period, he summed up the experiences of collectivization in our country, drew lessons from agricultural collectivization in the Soviet Union and, in guiding ideology, consistently advocated four points. 1) The transformation of the countryside must "proceed from the existing production conditions of the small-scale peasant economy," and we must not only cater to but must also transform it. If this is not properly carried out, we will "fail in both respects." We will be unable to bring into play the initiative of mutual aid and cooperation, and the initiative of individual economy will also be lost. 2) Measures must be steady. The development of collectivization must "advance in an orderly manner" from small to large, from low to high and from points to areas in steady progress. 3) The scale must be small. Without mechanization, the scale of the commune should not be too big. Small communes are better at solving problems regarding democracy. "Leadership is very difficult" in big communes. 4) Unite with the middle peasants. "Middle peasants are the basic masses of the revolution as well as the basic masses of production and construction." Poor and middle peasants "will both benefit if they integrate and will both suffer if they separate." The principle of voluntary participation and mutual benefit is the guarantee for the alliance of poor and middle peasants. This thinking is not only in conformity with the basic principle of Marxism-Leninism on the transformation of the small-scale peasant economy but is also appropriate to national conditions in China.

In the past, we associated the slogans of "four big freedoms" and "sustain private property" with Comrade Deng Zihui as though he was the originator and advocator. It should be pointed out that this was not the case. On the contrary, he thought that the "formulation of 'sustain private property' was incorrect," and the "generalized slogan of 'four big freedoms' was also inappropriate." The mistakes of "opposing rash advance" and "large-scale dissolving of cooperatives" ascribed to him in 1953 were also inconsistent with facts. The actual state of affairs was: Not long after the collectivization movement started in China, a tendency of "leftist" rash advance appeared in actual work from the winter of 1952 to the spring of 1953. This was mainly because some of the districts had not paid attention to conditions when setting up communes but had gone in for number and size and sought a higher form of collectivization. The CCP Central Committee attached great importance to this and issued several directives in less than a month to the whole party on correcting the tendency toward rash advance. It explicitly pointed out: "There is a serious sign of leftist rash advance in both the old and new districts at present. If this is not promptly and effectively checked, it will result in the disruption of production." In April 1953, the People's Publishing House published a very important pamphlet called "Guide to Present Rural Work." This pamphlet contained three documents. One was the first party decision on mutual aid and cooperation in agricultural production. The other two were: The central "Directive for Party Committees at Various Levels on Spring Plowing and Production" drafted by the central rural work department and the RENMIN RIBAO editorial "Key to Leading Agricultural Production." Comrade Mao Zedong specially drafted a circular for these three documents published by the Central Committee. The circular pointed out: These three documents "have indicated the theoretical understanding and important policy principles as well as the mass line work method the party must grasp in guiding rural work at the present stage." It completely affirmed the method of correcting the tendency toward rash advance. As a result of the prompt measure adopted by the CCP Central Committee for opposing rash advance, Deng Zihui and the central rural work department actively implemented the directive of the CCP Central Committee and immediately corrected this "leftist" tendency before serious damages were sustained. This enabled the agricultural collectivization movement of our country to advance steadily at the onset along the lines of the policy for healthy development of the CCP Central Committee and to fully demonstrate its attractive exemplary role.

Resolutely Correct the "Leftist" Tendency in Collectivization

China is a big country with a huge peasant population. Industry is backward and economic development is uneven. To carry out socialist transformation of agriculture in a country like this is a great new socialist practice. No ready-made answer can be found to many of the problems, and it is necessary to rely on the Chinese communists to conduct independent exploration. In the process of exploration, it is normal to have differences of understanding in the party. In 1955, differences and disputes appeared in our party over the question of the development of agricultural collectivization. In this controversy, Deng Zihui displayed the spirit of a high degree of responsibility toward the cause of the party as well as outstanding foresight and sagacity in leading the socialist transformation of agriculture.

From the winter of 1954 to the spring of 1955, there was a rapid development in the collectivization of agriculture throughout the country. During the months of March and April, the original target for developing 600,000 communes in 1955 had been topped. Development reached the 670,000 figure, and there was a tendency toward further development. However, during this major development, the error of rash advance again appeared in some of the districts. One of the conspicuous signs was overvigorous development. In some of the provinces and prefectures, the ten to twenty fold increase far exceeded permissible objective conditions. The premature and hasty handling of public ownership of means of production and the low evaluation set on prices had infringed on the interests of the middle peasants. Furthermore, the state purchase of 7 billion jin of grain in excess of the quota had caused a strain on the situation in the countryside. In some districts, the peasants withdrew from communes, slaughtered their cattle, cut down trees and sold their farm tools. Mao Zedong at that time pointed out: Production relations must correspond with the demands for the development of the productive forces; otherwise, the productive forces will rebel. The present slaughtering of pigs and cattle by the peasants is a rebellion of the productive forces. Obviously, if the tendency toward rash advance appearing in some of the districts is not seriously correct, it will be difficult for collectivization to have steady and healthy development. Faced with this situation, Deng Zihui and the rural work department bravely shouldered the responsibility, skillfully handled the situation, promptly reported actual conditions in the countryside to the CCP Central Committee and actively proposed measures for correcting the "leftist" mistakes.

After studying the tense situation in the countryside and the views of the rural work department, the CCP Central Committee decided to correct the tendency toward rash advance in some of the districts. In January, the CCP Central Committee issued a "Circular on Reorganization and Consolidation of Agricultural Producers' Cooperative." The circular demanded: 1) All districts which have fulfilled their target of development must "stop further development and concentrate on consolidation." 2) Districts which have not fulfilled their target must "continue their development while carrying out consolidation." Targets that are too high must be "appropriately cut back." 3) Districts without proper conditions must carry out reorganization. Subsequently, the CCP Central Committee again issued several circulars, directives and resolutions calling for devoting a period of time to concentrate on the work of reorganizing and consolidating cooperatives and to lay a solid foundation for a still greater development in collectivization. In two important speeches made between March and May, Mao Zedong put forward the policy of "stopping, cutting back and developing" for stopping what should be stopped, cutting back what should be cut back and developing what should be developed. The policy of "stopping, cutting back and developing" became the guiding principle for correcting rash advance.

Deng Zihui and the central rural work department resolutely implemented the central directive on correcting "leftist" mistakes. 1) Unify thinking and planning. The third national rural work conference was held in April 1955. At the conference, Deng Zihui appropriately analyzed the situation in collectivization and pointed out: "Rash advance is not a nationwide phenomenon. It is only found in a handful of provinces" and "the movement in most places is normal." He transmitted the policy made by the Central Committee calling on the cooperatives to "stop development and concentrate on consolidation" before autumn, and also made a comprehensive analysis of this policy with a positive spirit. He pointed out that "stopping development" is "for the sake of consolidating the existing cooperatives" and "seeking development from consolidation." This absolutely was not intended to stop development in the whole country. Several provinces in southwest and central and south China "can still carry out development." "Appropriately cutting back" only "refers to excessive development." "Cutting back must not be mistaken for proportionate distribution. Provinces and communes without much development naturally do not need to cut back. "Concentrating on consolidation means consolidating those cooperatives that can be consolidated." "The main purpose is not negative retreat but positive consolidation," and we are "for consolidating and not giving up our position."* When the spirit of the conference was transmitted to all parts of the country, it played the role of reversing the situation and basically putting a stop to the tendency toward rash advance. 2) Grasp the main point and carry out reorganization and cutting back. Deng Zihui was extremely concerned about overvigorous development in those provinces which had more problems, and he adopted concrete means to help them directly solve their existing problems. The speed of development of cooperatives in Zhejiang Province was the fastest, and the sudden fifteen fold increase had seriously infringed on the interests of the middle peasants. Furthermore, the purchase of grain in excess of the quota had caused unrest in the Zhejiang countryside. Relevant departments successively reported the tense situation in both the grain and cooperative sectors in Zhejiang to the Central Committee. Based on the spirit of the central directive and with the consent of the Central Committee, the central rural work department sent a telegram to the Zhejiang provincial party committee and also dispatched people to implement the central directive. The Zhejiang provincial party committee agreed with the spirit of the central directive on making appropriate cutbacks and concentrating on consolidation, and in the reorganization and cutting back carried out in the whole province, a total of 15,000 cooperatives were cut back. Generally speaking, the result was good. The tense situation in the countryside was eased, the middle peasants were reassured and 40,000 cooperatives were consolidated without any loss in production. Incidentally, only slightly over 20,000 cooperatives were cut back in the whole country and most of them were in Zhejiang, Shandong and Hebei. The other provinces were basically unaffected and only concentrated on carrying out reorganization and consolidation. Of the remaining 650,000 cooperatives, most of them had increased their production. The so-called "cutting back of 200,000 cooperatives" was nothing but a spurious charge fabricated by the Lin Biao-Jiang Qing counterrevolutionary cliques. This shows that the result of the reorganization and cutting back from January onward was good. Naturally, shortcomings and mistakes existed in the process of cutting back, but they were, after all, only secondary. They were the concrete work problems in the process of implementing the general and specific policies of the CCP Central Committee. 3) Speed in reorganization and development: how to carry out unified planning with due consideration for all sides in the 1955 to 1956 program for developing collectivization based on the development of the situation was an important matter concerning the healthy development of collectivization. In compliance with the plan put forward by Mao Zedong for developing one-third of the peasant households in each 5-year plan and in consideration of the arduousness of the task of consolidating more than 600,000 households when industrialization was still at the foundation-laying stage during the first 5-year plan, Deng Zihui and the central rural work department advocated carrying out less development and increasing the number of cooperatives by only 50 percent to 100,000. He held that only by laying a sound foundation could the superiority of the cooperatives be demonstrated and could there be fast and steady development for the collectivization movement in future. This plan was approved by the political bureau. It could be seen that the work of correcting leftist mistakes carried out by Deng Zihui and the central rural work department for overcoming the tendency toward rash advance, which had been carried out under the leadership of the CCP Central Committee and based on the policies and demands of the CCP Central Committee, also achieved good results. However, as everyone knows, this was subsequently seriously criticized and denounced as "cutting down cooperatives" and "following a right opportunist policy." This kind of criticism was not based on facts.

---

* Deng Zihui: "Opening Speech at the Third National Rural Work Conference," see "Party History Research," Vol 1, 1981.

It should be pointed out that despite the great pressure after being criticized, Deng Zihui still displayed a highly responsible attitude toward the party and people and called attention to problems which should be noticed in the movement without any thought for personal gain or loss. In a report he sent to the Central Committee, he wrote: Although we must go all out for development, we must not ignore consolidation. Although we must courageously usher in the upsurge, we must also strengthen leadership and pay attention to policies and measures. We must also bravely reflect conditions to the Central Committee in order to avoid making new errors. This was indeed a noble and upright sentiment. Unfortunately, his sound advise failed to play its proper role in the actual movement. This unfair criticism encouraged the "leftist" sentiment which originally existed, resulted in a harmful effect to the cause of collectivization and led to certain faults in the raising of the collectivization movement to a higher stage.

Racking Our Brains to Consolidate the Development of the Collective Economy

In 1956, our country basically achieved agricultural cooperation. This was a great victory. However, because we were too hasty in making the transition to advanced cooperatives and did our work too coarsely, many problems cropped up. The collective economy was therefore badly in need of a stabilization period for doing a solid job of consolidation and construction. Deng Zihui soberly caught sight of this problem. He went out into the countryside to conduct investigations and studies, summed up experience and lessons and devoted all his energies to the work of consolidating and building the collective economy.

Dazzled by the victory of the cooperative movement and the praises, many people only saw the victory and overlooked the problems. Deng Zihui exhorted the people to fully size up the realities of the cooperative movement. At the third session of the first NPC in 1956, he frankly pointed out: The cooperative movement "has achieved a great deal." "This is the dominant aspect of the movement." "However, does this mean that our cooperative movement does not have any shortcomings and mistakes? Obviously not. There are quite a few shortcomings and mistakes in our movement, some very serious. Concealing and slighting these shortcomings and mistakes would only do harm to our work in the future. It would not do us any good. Therefore, these shortcomings and mistakes must be thoroughly exposed and quickly rectified." This remark had a sobering effect on the sentiments of blind optimism which prevailed in the party at that time.

Only by resolutely implementing the economic policies would it be possible to consolidate the collective economy. This viewpoint was repeatedly emphasized by Deng Zihui at that time. In the course of investigation and study, he discovered that there had been deviations in the implementation of the policy of voluntary participation and mutual benefit during the transition to advanced cooperatives. Draught animals and farm tools had been priced too low. Some had even been given up to the public without compensation. He pointed out that rules and regulations of the cooperatives must be observed, fair prices must be set, and repayments must be made on schedule. Only when the policy of mutual benefit was implemented was it possible to set the middle peasants' minds at rest and to consolidate the cooperatives. He attached great importance to handling the relationship of economic interests between poor teams and rich teams. He stressed that the size of the cooperatives should be commensurate with their productive force and with the cadres' management level. He held that the advanced cooperatives were usually too large and difficult to manage. In such cooperatives, poor teams benefitted from rich teams. He suggested that there be 100 to 200 households in each cooperative and there be 20 to 30 households in each team. He also suggested that this "should remain unchanged for a number of years and that cooperatives should not be merged every year." During the transition to advanced cooperatives, some localities disregarded the natural and economic problems and did things in an absolute way. In view of this, Deng Zihui suggested that in mountain areas, two or three isolated and scattered households should be allowed to "farm on their own." He said that "we should not aim at 100 percent collectivization. Ninety percent is good enough." "What is the harm of retaining 10 percent individual economy for the peasants? Will it hinder the development of socialism? No, it will not." This farsignted view has been tested by both positive and negative experiences over 20-odd years in China's rural areas.

During this period, Deng Zihui racked his brain to improve the system of cooperatives. As the speed of the transition to advanced cooperatives was high and our work could not cope with it, the management and administration of the cooperatives were rather poor. Deng Zihui paid attention to setting up strict production responsibility systems. In early 1957, many agricultural cooperatives started management methods featuring division of labor with individual responsibility. For example, some cooperatives used the production team as the basic unit for setting output unit quotas, assigning tasks and appropriating funds. Others fixed output quotas for production teams, gave work assignments to groups and put households in charge of field management. Deng Zihui enthusiastically affirmed the people's creativity. He thought that this "division of labor with individual responsibility" integrated the individual's interests with the collective's interests and helped to mobilize the commune members' initiative. He thought this was a basic factor in doing a good job of production and demanded that it be popularized. In order to square the accounts of the cooperatives and strengthen the financial system, he did a meticulous job and compiled some teaching materials on accounting. His spirit was touching.

During this period under the leadership of the Party Central Committee, Deng Zihui and the rural work department of the Central Committee made many good suggestions to the Central Committee on how to organize production, run people's communes industriously, thriftily and democratically, practice division of labor, carry out organizational construction and strengthen the political and ideological education of commune members. On behalf of the Central Committee, they also drafted a series of instructions and documents regarding the consolidation and construction of the collective economy. Some of these draft instructions and documents were highly evaluated by Mao Zedong. The contributions Deng Zihui made to consolidating the collective economy were indelible. Unfortunately, when the measures to consolidate the collective economy were beginning to produce effects, they were stopped by the movement to set up the people's communes.

After the people's communes were set up, agricultural production dwindled for several years, the peasants' livelihood suffered unexpected difficulties, and the collective economy was faced with a severe test. At this critical moment, Deng Zihui maintained close ties with the masses, made concerted efforts with the Party Central Committee, and worked in a positive way to overcome difficulties, to develop production and to reorient the collective economy onto a healthy course under the leadership of the Party Central Committee and Mao Zedong.

1) He educated cadres to face difficulties with a revolutionary spirit. Having a good understanding of the overall situation and the seriousness of the situation in the rural areas, Deng Zihui adopted a correct Marxist attitude in the face of difficulties. At a party cadres' report meeting, he quoted a statement made by Liu Shaoqi: "When the situation is grave, we must neither waver nor be pessimistic. Instead, we should always try to find a solution. Only when we have such courage can we be genuine communists and Marxists." He quoted this statement in order to encourage the participating comrades and to make known his firm stand on overcoming difficulties. He added, "It is not that the collective economy is not superior, but that its superiority has not been given full play;" "although we have followed a tortuous path, we have finally found the correct way." This fully reflected his faith in the collective economy. Later, he was accused of "losing his confidence" in the collective economy. This does not tally with the facts at all.

2) He analyzed and summed up the causes of the economic setbacks, attributing them to the erroneous guiding ideology. He pointed out that although the grave difficulties of the collective economy were partly "caused by natural disasters," they were basically caused by men. "It is a problem of our work." With regard to the problems of work, he stressed two points. First, he stressed the mistakes in the transformation of ownership. "The change in ownership was too great, too much and too fast." "There are changes in all different ways." "This is playing with the peasants' rights to survive." "This is the most important cause of the decline in agricultural production and in the agricultural productive force." Second, he stressed that the mistake of egalitarianism was another important cause of the setbacks in the collective economy. He severely criticized the mistakes of "egalitarianism and indiscriminate transfer of resources." He quoted Mao Zedong's words: Since 1956, we have performed the task of "robbing the rich to help the poor" and of the heroes at Liang Shan mountain in "water margin." He clearly explained the mistakes of egalitarianism in the transformation of production relations and warned cadres to bear this bitter lesson in their minds. He also pointed out that egalitarianism was practiced in distribution. Since the communes were set up, production teams were responsible for production and production brigades were in charge of distribution. As a result, the poor teams benefited from the rich teams. In addition to this, the supply system of distribution and giving equal amounts of grain ration to everybody were also egalitarian practices and were detrimental to the peasants' production enthusiasm.

3) He tried to find a management system commensurate with the level of China's collective economy and the people's level of administration. In order to overcome the grave difficulties and consolidate the collective economy, Deng Zihui stressed that the ownership should remain unchanged for a long period of time, that respect should be shown for the production teams' ownership, that the policy of distribution according to work should be upheld and that special attention should be paid to establishing the management system with the production responsibility system

as the nucleus. However, the "large formation warfare" during the movement to set up the people's communes replaced the production responsibility system which was tentatively introduced in early 1957. In 1962, production teams of many localities adopted the production responsibility system by fixing specified jobs and production quotas for each work team and by fixing production quotas for each household. The phenomenon of individual farming also emerged. Out of his intention to consolidate the collective economy and develop production, he went deep to the basic levels to carry out investigations and studies, and to find some satisfactory forms of the production responsibility system to strengthen management, on the basis of investigations and studies, he pointed out: "The development of our agricultural production mainly depends on the peasants' initiative." "In order to mobilize their initiative, we must have a strict responsibility system and must practice division of labor." In accordance with the masses' creative ideas, he specifically suggested two types of responsibility system. First, production teams would make production contracts with work teams and with individuals when the jobs were not suitable for collective work. Second, he suggested the system of personal responsibility for output be supplemented with bonuses for overfulfillment of production quotas. He also stressed that leadership over the responsibility system be strengthened in order to prevent the tendency toward individual farming. As long as one upholds the collective ownership of the means of production, the centralized planning of production, the centralized coordination of the labor force and the responsibility system of centralized distribution of products, one should not be regarded as being engaged in individual farming. Deng Zihui clearly stated that individual farming should not be encouraged whereas the production responsibility system should be carried out. Later, he was criticized for stirring up the "wing of individual farming." Obviously, this was not Deng Zihui's original intention. The various forms of the production responsibility system currently practiced in the rural areas have achieved remarkable results. This fully demonstrates that Deng Zihui's views were correct.

Practice is the criterion for testing truth. History is written by the people. The party and the people have now fairly assessed Comrade Deng Zihui's work since liberation: Both he and the rural work department of the Central Committee, which he took charge of, upheld the socialist orientation, upheld the party's line, principles and policies and achieved remarkable results. Most of his views regarding the major issues in the agricultural collectivization movement were correct. Such an assessment can stand the test of history. Like all other elderly proletarian revolutionaries, Comrade Deng Zihui had shortcomings. In the specific work of setting up cooperatives, he inevitably made some mistakes. However, these do not detract from the glory of Deng Zihui as an outstanding organizer of China's agricultural collectivization. He has made indelible contributions to China's agricultural collectivization and people will cherish the memory of him forever.

CSO: 4007/424

BRIEFS

NEW WHEAT STRAINS--Xian, 21 May (XINHUA)--Several new octoploid wheat strains have been developed through distant hybridization by Li Zhensheng, deputy director of the Northwest Botanical Institute of the Chinese Academy of Sciences, after more than 20 years of hard work. The new wheat strains, which have the extraordinary capability of resisting drought as demonstrated during an unusual drought that hit central Shaanxi last year, have a per-mu yield of from 800 to 1,000 jin. [Beijing XINHUA Domestic Service in Chinese 1205 GMT 21 May 81]

MEETING ON SUBURBAN ENTERPRISES--The Ministry of Agriculture recently held a meeting in Beijing's Tongxian County to plan the development of rural enterprises in the country's big cities. Responsible persons concerned in Beijing, Tianjin, Shanghai, Nanjing, Guangzhou, Wuhan, Chongqing, Chengdu, Xian, Shenyang and Harbin attended the meeting to discuss how to take advantage of big cities' strong points in planning for the development of commune and production brigade-run enterprises in the suburbs. Comrade Du Ziaduan, vice minister of agriculture, said at the meeting that these enterprises should support big industries, build the suburbs into bases for nonstaple foods and develop export goods production. [OW282127 Beijing Domestic Service in Mandarin 2230 GMT 22 May 81]

ADVANCED IRRIGATION WORK COMMENDATIONS--Beijing, 25 May (XINHUA)--At the recently concluded national conference on water conservancy management, 54 advanced units were commended for their outstanding work in managing water conservancy projects. They include Guangdong's Dongguan County which has made maximum use of water conservancy facilities, Jinghui irrigation area in Shaanxi Province which has expanded irrigated area from 500,000 mu to 1.35 million mu and Wenxian County in Henan Province which has more than 4,800 machine-operated wells. The per-mu yield of grain of the county has exceeded 1,000 jin and wheat 700 jin for several years running. The advanced experiences will further promote water conservancy work and help correct past practice of laying stress on construction work and paying less attention to management due to influence by "left" ideology. [Beijing XINHUA Domestic Service in Chinese 0108 GMT 25 May 81]

QINGHAI-XIZANG PLATEAU EXPLORATION--Kunming, 25 May (XINHUA)--A comprehensive exploration group organized by the Chinese Academy of Sciences began exploring the Hengduan mountain ranges of the Qinghai-Xizang Plateau on 21 May. More than 200 scientists, including botanists, zoologists and biologists, took part in the exploration. The Hengduan mountain ranges cover an area of half a million square kilometers in Qinghai-Xizang Plateau. With peaks protruding to over 7,500 meters and valleys dropping to a few hundred meters, the area is marked by complicated terrain and rich natural resources. The area is one of China's important bases for water resources, forestry, animal husbandry, mining and energy. The comprehensive exploration group is subdivided into 27 work teams responsible for 38 special exploration projects. The exploration work is expected to be completed by 1985. [Beijing XINHUA Domestic Service in Chinese 0234 GMT 25 May 81]

EDIBLE OIL OUTPUT--Beijing, 26 May (XINHUA)--China's edible oil export exceeded its import in 1980, according to information provided by the meeting for directors of food departments held in Beijing. Thanks to a higher procurement price for edible oils, China reaped bumper harvests of oil-bearing crops 3 years in a row. China's total edible oil output increased to 4,134 million jin in 1978 and rose to 4,931 million jin and 5,526 million jin respectively in 1979 and 1980. Total output can exceed 6 billion jin this year if no serious natural disasters occur. [OW300603 Beijing XINHUA Domestic Service in Chinese 0222 GMT 26 May 81]

CSO: 4007/415

BRIEFS

SPRING SOWING--As of now, Anhui's Linquan County has completed spring sowing of 220,000 mu of sweet potatoes, 158,900 mu of cotton and 34,100 mu of corn and Chinese sorghum. [OW211431 Hefei Anhui Provincial Service in Mandarin 1100 GMT 15 May 81]

RAPESEED OUTPUT--Fefei, 20 May (XINHUA)--Anhui Province is expected to produce 9 million dan of rapeseed this year, 65 percent up on last year. The province has reported an annual increase of 1 million dan for the last 3 years. The provincial grain department has set the procurement target at 3.24 million dan, but the real volume is expected to double that amount. To insure successful procurement, the provincial people's government has issued a circular calling on all localities to produce as much rapeseed as the people want to sell. In addition, departments concerned have stepped up construction of storage for edible oils. [OW221211 Beijing XINHUA Domestic Service in Chinese 0056 GMT 20 May 81]

WHEAT HARVEST--Anhui's Lingbi County is expected to reap a bumper wheat harvest this year from its 1.04 million mu of wheat fields. The county has taken measures to make preparations for procuring wheat. [OW010233 Hefei Anhui Provincial Service in Mandarin 1100 GMT 27 May 81]

FIRE PREVENTION CONFERENCE--The Anhui provincial people's government called a telephone conference on fire prevention in the wheat harvest season on 26 May. The conference called on all localities in the province to do a good job in ensuring safety and preventing fire during the wheat harvest season. It called on party and government leaders at all levels in various localities to work out applicable plans for promoting fire prevention, to popularize the significance and measures for fire prevention, to sum up experiences in preventing fire and to ensure safety in wheat harvesting. This year's slogan is "we will have no fire and we will have no loss of grain." If all departments concerned at all levels work together with one mind, this goal can certainly be attained. [OW010441 Hefei Anhui Provincial Service in Mandarin 1100 GMT 27 May 81]

CSO: 4007/415

FUJIAN

ECONOMIC VALUE OF RAISING BEEF CATTLE OUTLINED

Fuzhou FUJIAN RIBAO in Chinese 26 Mar 81 p 1

[Article by Lin Rong [0407 2827]: "If 1 Million Head of Beef Cattle Are Raised..."]

[Text] Our province now has about 1 million cattle on ranches, the majority of which are draft cattle. In a few years, if our province's beef cattle can also be raised to 1 million head, the economic value will be very sizable.

Among 1 million head of beef cattle, based on the calculation of the average yield of 35.5 percent of various nations, there would be 355,000 head of beef cattle for slaughter a year. Pure beef cattle, when allowed to graze, can reach 600-700 jin in weight at 1 year old. When fed fine feed and fattened, the body weight can reach 800-1,000 jin. The slaughter rate of pure beef cattle is generally 62 percent, the average body weight is 410 jin; on the basis of a domestic price of 96 fen per jin of beef, the total weight of 355,000 head of beef cattle after slaughter would be aboue 145.55 million jin and the price would be over 139,7 million yuan. If the beef were exported, the price would be even higher.

Massive raising of beef cattle would provide more cattle for slaughter and more hides. The hides provided by 355,000 head of cattle, calculated on the basis of 20 pairs of shoes per hide, can be used to make 7.1 million pairs. Of course, the use of cowhides is not limited to making shoes. The hides could also be used to make many kinds of high-grade leatherwear.

Cow dung contains nitrogen, phosphorus and potassium fertilizers. One hundred jin of cow dung is equivalent to the fertilization of 2.931 jin of ammonium sulfate, 1.466 jin of calcium superphosphate and 0.975 jin of potassium sulfate. One head of cattle can accumulate 150 dan of cow dung a year. The amount of cow dung accumulated by 1 million head of cattle is 150 million jin, equivalent to 436.95 million jin of ammonium sulfate, 219.9 million jin of calcium superphosphate and 146.25 million jin of potassium sulfate. This amount of cow dung, if used first in the production of mushrooms and then used to fertilize the land, calculated on the basis of using 100 jin of cow dung to produce 25 jin of mushrooms, can produce 37.5 million jin of mushrooms.

The animal oil and fat in the body of cattle have a high economic value and they can be used to produce edible meat paste, industrial oils and various types of soap.

The oil and fat from beef cattle generally constitute 10 percent of body weight. Calculated on the basis of a yearling weighing 700 jin and 1 ton of animal oil producing 2 tons of soap, slaughtering 355,000 head of beef cattle a year would produce enough oil and fat to make 24,800 tons of soap. At present, cattle oil and fat are used not only for manufacturing soap; they also have other uses with an even higher economic value.

Bones constituting 15 percent of the body weight of cattle are also raw materials for producing bone glue, white gelatin, activated carbon, bone oil, and bone meal. The intestines have a very high medicinal value. For example, the heart can be used to produce cardiac hormones; the gallbladder can be used to produce artificial bezoar, cholic paste; the pancreas can be used to make insulin, medicinal and industrial pancreatin; the liver can be used to make liver paste tablets, liver juice, liver essence injections, etc. In addition, the horns, hoofs, brain and blood are all useful.

9296
CSO: 4007/368

BRIEFS

TONG OIL PRODUCTION--Pucheng County in Fujian promotes tong oil production with marked results. In the past 4 years, the county's total acreage of tong trees has been doubled with the total tong oil output increasing by 80 percent. At present, the county has planted over 90,000 mu of tong trees with some 900,000 jin annual tong oil output. The county tops other counties in the province in tong oil production. [Fuzhou Fujian Provincial Service in Mandarin 1035 GMT 26 May 81]

CSO: 4007/415

NEW BREED OF HIGH MOUNTAIN FINE WOOL SHEEP REPORTED

Beijing RENMIN RIBAO in Chinese 10 Apr 81 p 1

[Article: "High Mountain Fine Wool Sheep of Gansu--Has Strong Adaptability, Provides Mutton and Wool, Yield Is High, Quality Is Good"]

[Text] Workers of the animal husbandry front in Gansu Province have successfully bred a domesticated new breed of "Gansu High Mountain Fine Wool Sheep."

The Gansu high mountain fine wool sheep has been bred on the basis of hybridization and improvement of the original sheep after more than 20 years of hard research and careful cultivation. In June last year, the Gansu Province people's government invited concerned specialists to evaluate the new breed. The specialists all agreed that this new variety already possesses the conditions to become a breed.

The Gansu high mountain fine wool sheep is adapted to being raised in the high mountains at 2,600-4,000 meters above sea level. Its body is longer, its chest is wider and deeper, its limbs are strong. Its feeding habit is broad, it endures cold and hardship, and it eats coarse feed; it can live normally in ordinary herding, be mated and give birth to kids during the dry grass period which lasts for 7 months with very little feed supplement, and it is easy to manage in large herds. It provides both mutton and wool. After the adult male sheep is sheared, each live sheep can weigh up to over 150 jin and each produces over 15 jin of wool. The wool is fine, feels good, and fat content is high, the color is white, and the strength of the single wool fiber approaches that of the Australian wool fiber. The main strand has a fineness of 64 fibers. The first-grade female sheep grows wool to a length of 7.8 centimeters. The quality of meat of the sheep is good. The slaughter rate of the adult wether comes to above 45 percent.

9296
CSO: 4007/368

BRIEFS

PLA UNITS--Lanzhou, 16 May (XINHUA)--Taking into consideration the interests of the local minority people, the Lanzhou PLA units recently turned over gratis 12,000 mu of farmland originally under its No 101 farm and 180,000 mu of pastureland to the local government. The PLA units also turned over 12,000 head of livestock, houses, water and electrical facilities and farm and pastoral implements of an animal husbandry farm to a local country government. [Beijing XINHUA Domestic Service in Chinese 0220 GMT 16 May 81]

CSO: 4007/415

GUANGDONG

GOOD RESULTS IN SPRING PLANTING, PRODUCTION WORK

Guangzhou NANFANG RIBAO in Chinese 10 Apr 81 p 1

[Article by Nong Sheng [6593 3932]: "Strive To Complete Spring Planting and Production Tasks on Time; Our Province's Farm Villages Grasped the Opportune Time To Transplant Early Rice; 70 Percent of the Transplanting Plan Has Been Completed; More Peanuts and Sugarcane Planted Than Last Year"]

[Text] Our province's broad masses of cadres and commune members in farm villages coordinated and unified their efforts to overcome drought and low temperatures and such unfavorable weather and strive to complete spring planting and production tasks on time. Up to 8 April, nearly 20 million mu of early rice had been transplanted throughout the province, constituting 70 percent of the planned area. At the same time, over 4.8 million mu of peanuts had been planted, an increase of more than 400,000 mu over the same period last year; 3.06 million mu of sugarcane, an increase of more than 554,000 mu over last year; 585,000 mu of potatoes, an increase of 220,000 mu over last year; over 120,000 mu of yellow and red tobacco, an increase of more than 31,000 mu over last year, and over 257,000 mu of jute and bluish dogbane, an increase of more than 94,000 mu over last year. In the southern and eastern regions, where transplanting progress has been faster, they have now entered into field management.

This year, our province's spring drought was relatively severe. After the middle 10 days of February, a relatively long period of low temperatures and overcast and rainy weather was encountered, affecting the growth of the seedlings. Some of the seedlings froze to death. This delayed the transplanting time compared to past years. To overcome this unfavorable weather and to make sure of the opportune time for doing spring planting and production work well, party and administrative departments at all levels canceled all meetings that were unrelated to spring planting, rapidly organized cadres to go deep into the basic levels, negotiated with the masses, grasped the favorable time of the warming trend in March, concentrated labor, animal forces and machinery, managed the fields, and seized the transplanting of early rice. Each locality paid special attention to stabilizing and perfecting various forms of production responsibility systems, mobilized the enthusiasm of the masses, and hastened the progress of transplanting. At present, over 90 percent of the transplanting goals in Hainan Island and Shantou Prefecture have been completed, and over 80 percent of the transplanting tasks have been completed in Foshan and Zhaoqing prefectures, and in Guangzhou.

In seizing transplanting, each locality established the ideology of resisting disasters and seizing bumper harvests and paid attention to simultaneous transplanting and management. Efforts were directed toward the fact that this year's transplanting was late, that the present temperatures are high, and that diseases and insect pests easily occur. Many regions paid attention to realizing early, fine management in order to stimulate early growth and rapid development of the seedlings in field management, and to strengthening the ability of the plants to resist diseases and insect pests and lodging. At the same time, attention was paid to strengthening the forecasting of diseases and insect pests and to preparing for and preventing floods, so as to assure a bumper harvest of the early crop.

9296
CSO: 4007/372

BRIEFS

TORNADO HITS BRIGADES--On 1 May, (Guateng) brigade, (Leqin) brigade and (Longer) brigade in (Xilian) commune in Xuwen County were hit and seriously damaged by a strong tornado. The area hit by the tornado was some 4 kilometers long and some 100 meters wide. In that area 162 households were affected, 183 houses were blown down, the roofs of 533 houses were damaged, one person was killed, 15 people were seriously injured, and 29 people were slightly wounded. [HK140935 Guangzhou Guangdong Provincial Service in Mandarin 2330 GMT 6 May 81]

HAILSTORMS AFFECT COUNTIES--In March and April this year, some 30 counties in Guangdong Province were affected by hailstorms. The largest hailstone, which fell in Nanxiong County, weighed 15 kilograms. Hailstones in Yunan County were piled up to a depth of 1 chi. Some 10 people were killed by hailstones. [HK140935 Guangzhou Guangdong Provincial Service in Mandarin 2330 GMT 7 May 81]

RAIN DAMAGE--In the past few days, floods occurred in some areas of Guangdong due to heavy rain. In these areas, houses collapsed, farmland was flooded, and among people and animals there were injuries and deaths in Yangjiang County. According to preliminary estimates, 18 persons died while 1 is missing, 42 boats sank and 120,000 mu of rice fields were flooded. Huilai County and Zhuhai Municipality also suffered varying degrees of damage. At present, the cadres and masses in these areas are stepping up drainage and repair of water conservancy projects, so production can be resumed. [Guangzhou Guangdong Provincial Service in Mandarin 2330 GMT 15 May 81]

COMMUNE-RUN ENTERPRISES--Guangzhou, 16 May (XINHUA)--In 1980 the total income of commune and brigade-run enterprises in Guangdong Province reached 4,165 million yuan, an increase of 24.6 percent compared with 1979. They made a total profit of over 630 million yuan and paid 150 million yuan in taxes to the state, an increase of 22 and 12.6 percent respectively compared with 1979. [Beijing XINHUA Domestic Service in Chinese 0135 GMT 16 May 81]

SPRING-HARVESTED CROPS--Despite continuous drought in winter and spring, Guangdong Province still increased output of spring-harvested crops. This year's output of rape increased by 41,400 dan or 34.64 percent; output of millet increased by 28 million dan or 3.19 percent; output of dry grain increased by 20 million dan or 31.25 percent; and output of soya beans increased by 19,400 day or 7 percent over last year's output. In Zhanjiang Prefecture, this year's output of spring-harvested grain was 22 million jin more than last year's. However, in 12 prefectures and municipalities in Guangdong Province, output of spring-harvested grain declined to varying degrees because areas sown with spring-harvested grain were reduced. [Guangzhou Guangdong Provincial Service in Mandarin 2330 GMT 16 May 81]

CSO: 4007/415

GUANGXI

PHYSIOLOGIST DEVELOPS TEST TUBE CULTIVATION OF SEEDLINGS

Shanghai JIEFANG RIBAO in Chinese 15 Apr 81 p 3

[Article by correspondents Shen Ronghua [3088 2837 5478] and Xu Zhengde [1776 2973 1795], and reporter Li Wenqi [2621 2429 4388]: "Test Tube Cultivation of Seedlings Develops Rapidly in Guangxi; Enthusiastically Praised by Science Committee of Guangxi Zhuang Autonomous Region"]

[Text] A few days ago, the scientific and technical cadre department of the people's government of the city received a letter of praise from the scientific committee of the Guangxi Zhuang Autonomous Region. The letter praised researcher Luo Shiwei [5012 1102 7279] of the Shanghai Plant Physiology Institute of the Chinese Academy of Sciences for his contributions in directing the scientific research work of cultivating plant tissues throughout the region, during his stay as adviser of the Guangxi Scientific Committee.

The 74-year-old Luo Shiwei had realized achievements in tissue cultivation in the study of plant physiology as early as the mid-1940's, and has become renowned as a plant physiologist. In recent years, he directed and participated in scientific research in cell physiology and also helped other units carry out work. In 1978, Luo Shiwei received an invitation from the scientific committee of the Guangxi Zhuang Autonomous Region to serve as science adviser. He forgot about his age and illnesses and traveled the north and south of Guangxi and deep into the research laboratories and production fields to guide scientific research work in the cultivation of plant tissues.

In the past, the planting of sugarcane was done by leaving sugarcane as seed. Generally, half a ton to 1 ton of sugarcane per mu had to be left as seed. Luo Shiwei guided the techniques of cultivating tissues and used small pieces of the stalk and leaves of the sugarcane for cultivation in test tubes. In this way, leaving the plants for seeding became unnecessary. In 1979 and 1980, test tube seedlings covered 150 mu and success was realized. The sugarcane laboratory of Liucheng County followed the suggestion of Luo Shiwei, combined propagation of superior varieties, and began this year to experiment with factory cultivation on 500 mu. It is estimated that after 2 years, superior varieties can be planted over about 10,000 mu. Later, it can gradually be propagated throughout the entire autonomous region and superior varieties can be planted. This project has received first prize award as an important scientific research achievement by the Guangxi Zhuang Autonomous Region.

Under the guidance and help of Luo Shiwei, scientific research personnel of the autonomous region obtained test tube seedlings for tissue cultivation of eucalyptus, fruit of the podocarpus, pineapple, rape, ramie, flowers and other such economic plants. He also proposed a series of measures for cultivating healthy and strong seedlings, using sunshine, temperature and nutrition in dealing with the question concerning the difficulty of keeping transplanted test tube seedlings alive. Thus, the percentage of living plants grown from test tube seedlings increased from 1 to 2 percent to over 80 percent and even as high as 100 percent.

The letter of praise from the scientific committee of the autonomous region said: "When Luo Shiwei came to our region to serve as adviser, he introduced massive amounts of information on scientific research activities and technical data to our region's scientific and technical personnel, enabling comrades engaged in this aspect of work to see the future and to grasp technology. In guiding scientific research work in our region and in studying the topics and content of research, he emphasized the viewpoint that the purpose of scientific research is to serve agricultural production. At present, the scope and scale of scientific research subjects on tissue cultivation have developed more rapidly."

Now, the scientific committee of the autonomous region has included plant tissue cultivation as a key scientific research subject for the entire region, and has given a full guarantee for funds and conditions.

9296
CSO: 4007/389

GUANGXI

BRIEFS

NANNING PREFECTURE ECONOMIC CROPS--Prior to transplanting rice seedlings, Guangxi's Nanning Prefecture, which is in the subtropical area, planted 660,000 mu of economic crops including sugar cane, cassava, jute and ambary hemp, bananas, tong-oil trees, and aniseed. This is an increase of 370,000 mu over the corresponding period last year. This is a fortuitous result of Nanning Prefecture's supply and marketing cooperatives' active support of communes and brigades in eliminating the influence of leftist thinking and energetically developing a diversified economy. Under the leadership of the prefectural party committee and the prefectural commissioner's office, Nanning Prefecture's supply and marketing cooperatives put the emphasis on supporting the communes' and brigades' development of a diversified economy. They successively dispatched large groups of cadres and staff and workers to key point communes and brigades in order to promote the implementation of production plans for a diversified economy and to aid in the solution of some production difficulties. According to statistics of the supply and marketing cooperatives of the nine counties of Yongning, Longan, Wuming, Tiandeng, Chongzuo, Longzhou, Binyang, Shanglin and Heng, at present, the supply and marketing cooperatives have already supplied in a timely manner the communes and brigades with 520,000 anise seedlings, 260,000 banana seedlings, 340,000 pineapple seedlings and large numbers of seedlings or seeds for such plants as tea, Amomum villosum, tallow trees, mangosteen, oranges, tangerines, tung trees, tea-oil trees, jute and ambary hemp, thus insuring a planting season without mishap. [Text] [Beijing ZHONGGUO CAIMAO BAO in Chinese 7 Apr 81 p 1]

NATURAL CALAMITIES--According to GUANGXI RIBAO, damage done by floods, plant diseases, insect pests and cold waves is continuing to develop. The cadres and masses on the communes and brigades affected are going all-out to fight the calamities. Production there is now reviving. Since the middle of May, the majority of counties and municipalities in the region have had heavy torrential rains. Leaders of Liuzhou, Yulin, Wuzhou and Nanning Prefectures, where the calamities are relatively serious, have mobilized the masses to fight floods. Yulin prefectural CCP Committee Secretary (Lin Zhong), Wuzhou prefectural CCP Committee Deputy Secretary (Meng Zhanchun) and others have led work teams to Guiping, Pingnan, Teng, Cangwu and other seriously affected counties to direct efforts to crash repair river embankments, strengthen dams, and replant crops. Liuzhou Prefecture and Xincheng, Laibin and Wuxuan counties have been seriously hit by torrential rains. Guilin Prefecture has been hit by three cold waves since 2 May, and the temperature there is still rather low. Over 1.14 million mu of early rice there have been affected by the cold weather. [HK261016 Nanning Guangxi Regional Service in Mandarin 1130 GMT 25 May 81]

CSO: 4007/415

HEBEI

HEBEI PROVINCE ANNOUNCES START OF SPRING AFFORESTATION WORK

Shijiazhuang HEBEI RIBAO in Chinese 10 Mar 81 p 1

[Notice by Hebei Province People's Government: "Notice on Active Conduct of Spring Afforestation;" issued 9 March 1981]

[Text] The favorable time for spring tree planting and afforestation has arrived. In order to accelerate afforestation in this province, to improve the ecological balance, to mitigate natural catastrophies, to assure stable high yields in agriculture and livestock raising, to create an excellent natural environment for the people's productive activity and daily life, and gradually to increase wood resources, the people of the entire province must immediately go into action and rapidly stir up a high tide of mass spring afforestation activity. To this end, the following notification is made:

1. Government organizations at all levels must continuously implement the spirit of the CCP Central Committee and State Council "Directive on Energetically Pursuing Afforestation," must educate the cadres and masses so that they thoroughly understand the importance of large-scale afforestation and grass seeding for developing agricultural and industrial production and improving the people's production and living environment, must increase the enthusiasm of the people throughout the province for successful spring afforestation, and must fulfill and overfulfill this year's spring afforestation assignments.

2. This spring the climate has been dry and there has been great difficulty in afforestation. The localities must act in accordance with local conditions and the actual state of affairs, do everything possible to overcome difficulties and make a major effort in drought resistance work in connection with afforestation. Effective surveys and plans must be made, technical leadership strengthened, the six basic technical measures (using the right trees in the right areas, using good seed and vigorous seedlings, preparing the ground carefully, planting with the proper density, transplanting carefully, and tending the plants carefully) implemented, stress must be laid on quality and tree survival must be assured. After the forests are planted they must be rigorously inspected for acceptance, files established, and timely stress laid on protection and management. Localities in which drought conditions are so severe that they are genuinely incapable of afforestation work may begin with ground preparation and seedling cultivation as preparation for afforestation in a rainy season or in the fall.

3. The policies of giving primacy to commune and brigade collective afforestation, of actively promoting state-managed afforestation, and of encouraging individual

tree planting by commune members, should be adhered to. Commune and brigade maintenance of forest areas should be strengthened and expanded, mass seasonal afforestation and afforestation by specialized teams should be coordinated, and the advantages of the collective economy should be thoroughly brought into play. In collective afforestation, such several fixeds, several rewards production and responsibility systems as linking planned output with remuneration, fixed target management, and assignment of work in small sections should be implemented. Ownership of forests in mountain areas should be based on the currently existing type of ownership. The type of ownership of state forests cannot be changed at will. The policies that forests planted by the state are state-owned, forests planted by the commune are commune-owned, forests planted by the brigade are brigade-owned, forests jointly planted are jointly owned, and trees planted by commune members in their dwelling areas, in private mountain areas or in areas designated by the production team are individually owned by the commune members, should be conscientiously adhered to. In state-owned farms and forestry areas of livestock-raising operations, the cognizant offices should be in charge of tree planting, and the forest rights should belong to the unit which does the planting. Plantings along railroads, highways and canals and around reservoirs can be carried out by the cognizant unit and belong to it, or an agreement can be signed with the neighboring commune or brigade for joint planting, with harvesting rights divided proportionately. All units such as offices, army units, schools, factories, mines, enterprises and municipal blocks should mobilize to use all possible areas to plant trees and grass and improve the environment.

4. Wanton and excessive cutting of trees should be resolutely stopped and the results of afforestation should be effectively protected. Government organizations at all levels should conscientiously put into practice the spirit of the State Council's and provincial government's urgent notice regarding the resolute stopping of wanton and excessive cutting of forests, should make extensive trips to the basic level for propaganda and education on loving and protecting the forests, should set up and maintain forest protection teams, should draw up practicable forest protection pledges, and should speedily investigate and strictly punish wanton or excessive, unauthorized or fraudulent cutting of forests. Units and individuals which have done effective forest protection work should be given commendations and rewards.

5. Spring nursery stock cultivation should be done well so as to provide sufficient nursery grown plants for next year and future afforestation. The localities must work out a nursery stock plan in accordance with the overall afforestation plan and local conditions. The stock should be raised primarily by the communes and brigades, and an energetic effort should be made in state nursery stock raising. Various industries and individual commune members should be encouraged to raise seedlings. Nurseries at all levels should improve their seedling-raising techniques, increase their yields per unit area and seedling quality, strengthen their management work, decrease production costs, and raise more and better seedlings.

6. Leadership of the spring afforestation work should be strengthened. This year the spring afforestation must be done on a tight schedule, the assignments are heavy, and government organizations at all levels should immediately investigate the situation among their subordinate units, the tasks should be carried out at all levels, and afforestation activity should be pursued as rapidly as possible.

During the afforestation period government organizations at all levels should make afforestation a critical matter and strengthen their leadership of it, making an energetic and effective effort. All departments should be thoroughly brought into play, the broad mass of cadres and the masses should be mobilized to take part in the spring afforestation activities, and an intense effort should be made to accomplish this year's spring afforestation and nursery stock cultivation tasks.

8480
CSO: 4007/338A

REFORESTATION WITH TREES SUITED TO LOCATIONS STRESSED

Shijiazhuang HEBEI RIBAO in Chinese 12 Mar 81 p 4

[Article by Han Dunyi [7281 2415 5030], Provincial Forestry Research Institute: "Use the Right Trees for the Right Locations in Reforesting Denuded Mountain Areas"]

[Text] Our province has 180 million mu of mountain areas, accounting for 65 percent of its total land area. Since Liberation, there have been repeated afforestation efforts in the mountains, but because of poor natural conditions, the success rate was low and the rate of survival small (less than 25 percent). Currently only 13.1 percent of the province has forest cover. This lack of forests is leading to degradation of the environment, frequent natural calamities, serious soil erosion in the mountains, a shortage of the four materials, and low and unstable outputs from agriculture and livestock raising, which has gravely affected our province's modernization and construction.

Now that the snow has melted and spring has returned, spring afforestation will be begun. An important question in relation to spring afforestation work in the mountains is the use of the right trees in the right locations. Use of the right trees in the right locations means selection of the proper seed varieties for the afforestation conditions. If the wrong varieties are chosen, the trees will either die or become stunted.

As regards the forestry zoning of the province, in the northern part of the southern section of the Mongolian plateau the focus is on developing protective forest areas. The main trees used are poplar, elm, larch, Pinus sylvestris var, Mongolica, dragon spruce (Picea asperata) and birch; in the medium-altitude regions (less than 800 meters elevation) of the mountain area below the southern section of the Mongolian plateau (including the Taihangshan, Yanshan, Hengshan and Jishan mountain areas, the primary focus is on building materials and water-resource protection forests. On the slopes, primarily larch, Chinese pine, Mongolian oak, Liaodong oak, oriental white oak (Quercus aliena), birch, dragon pine and mountain apricot are used, while at the foot of slopes and in valleys, mountain poplar, willow, elm, Chinese linden, Manchurian ash and [illegible]gboluo [7806 3134 5012] are the main trees used. On hilly terrain (elevations below 800 meters), the primary types of forests planted are erosion-protection forests, economic forests and firewood forests. The main trees on the slopes are locust, Chinese pine, Platycladus orientalis, ailanthus, sawtooth oak, oriental oak (Quercus variabilis), Mongolian oak (Quercus dentata), and shrubby falseindigo. In valleys and at the foot of slopes, economic forests of walnut, Chinese chestnut, persimmon, jujube, Chinese pistachio, Chinese prickly ash, mountain apricot, apple and pear can be planted, as well as wood forests of poplar, willow, elm and pawlonia.

8480
CSO: 4007/338A

AFFORESTATION ADVOCATED AS WATER CONTROL MEASURE

Shijiazhuang HEBEI RIBAO in Chinese 12 Mar 81 p 4

[Article by Wang Xujie [3769 4872 2212], Wang Changzong [3769 7022 1350] and Huo Xiujin [7202 0208 6930]: "Take the Path of Afforestation and Water Control"]

[Text] In the more than 30 years since the state was founded, Hebei Province has carried out large-scale water conservancy construction in agricultural fields in order to prevent flooding and drought, which has been extremely important in increasing irrigated area, strengthening the ability to resist natural calamities and assuring a steady increase in agricultural production. But it has also involved certain problems. One problem is that the work has not been well coordinated with afforestation and expansion of forest cover. As Comrade Zhao Ziyang has said: "Only by increasing the forest area at the same time as we build reservoirs can we truly gain the initiative." Thus afforestation is an effective method of erosion prevention and water control.

Our province's annual rainfall is extremely variable. The variation in runoff between flood years and low-water years is also considerable. Not only are storm center locations different every year, but the monthly rainfall varies widely in each area. Accordingly, there is an extremely wide variation in the discharge of all streams through the year. In more than 7 years out of 10, precipitation is concentrated in July, August and September; and in more than 7 years out of 10 runoff water is also concentrated in these 3 months. In the past, after a storm, floods would arise in the mountains and the river levels would rise suddenly; if emergency flood control efforts could make this water run off to the sea all was well, but if not, there would be flooding. In addition, because of excessive concentration of precipitation, relatively low, wet land, and particularly the low-lying wet areas in the plains, would accumulate more water than could percolate away, thus drowning rice shoots and causing waterlogging. The basic reason that "the rivers are dry in winter and spring and become torrents in summer and fall" is that our province has a low percentage of forest cover. Accordingly, to turn this state of affairs around it is necessary to create "green reservoirs."

One method of doing this is to pursue resolutely a policy of closing off the hillsides for afforestation. Of the nearly 20 million mu of natural second-growth forest in Hebei's mountain regions, the vast majority grew as a result of closing off the hillsides. In this method, the soil is not disturbed, seeds and seedlings are not used, and no labor is expended in making denuded mountains green and increasing their plant cover. Water sources are preserved, erosion is prevented, the production of firewood, feed and fertilizer is increased, and "late autumn harvests" are possible on a large scale. On some slopes the soil is not entirely denuded, the trees are not completely extirpated, and if the hillsides are closed off, forests will grow after a number of years. Even if they do not grow to be large forests, they can start by producing shrubs which provide kindling and prevent erosion. When the hills are covered with grass, they can be opened for grazing, which is much more preferable to completely denuded mountains. An immediate resumption of the system of closing off the hillsides for afforestation is urgently needed. Our province has a large area of mountain lands; in just five counties in Jiakou Prefecture, namely Chicheng, Huailai, Chongli, Zhuolu and Xuanhua, there are nearly 2 million mu of forest remnant lands which could grow into forests again if they were closed off. According to the requirements of the Law on Forests, the forested area of the mountainous regions must reach over 40 percent of their total area; our province must produce an additional 40 million mu of forests to achieve this objective. If we rely only on afforestation by human efforts, we will be hard put to it to achieve this objective in the present century, whether in terms of manpower, material resources, financial resources or time. We must walk on two legs, i.e. pursue both closing off of mountains and artificial afforestation.

The second method is effective districting for water-resource protection forests. Water-resource protection forests are among those in which wood cutting is prohibited. In a situation where experience is lacking and planning is highly detailed, we cannot designate such areas lightly, otherwise chaos might result, with continual revision of directives, which would harm the application of forest policy. We can only adopt a gradual method of selecting the critical points in terms of the necessary conditions, making experiments, acquiring experience and gradually expanding. Managing water resource protection forests is a painstaking, technically demanding task, and not every forest can function as a water-resource protection forest. Water resource protection forests have their own particular requirements, such as the types of trees, location, form, area and the like. In addition, plant cover, climate and hydrological studies are required, as well as forest management. Therefore it will be necessary to set up a contingent of specialized personnel and organizations, to do persevering work over a long period, and to avoid an inconsistent or intermittent approach.

The third method is to intensify leadership and engage in comprehensive planning. This requires that leadership at all levels conscientiously approach the expansion of forestry as a major undertaking which is beneficial to the present generation and creates riches for future generations, and be clearly aware that "afforestation is the production of water, of grain, of light industrial products, and of local small-scale industry." Forestry should be put on the party committees' agenda of major subjects.

8480
CSO: 4007/338A

WHEAT SOWING PROGRESS IN PROVINCE NOTED

Harbin HEILONGJIANG RIBAO in Chinese 22 Apr 81 p 1

[Text] At present, our province's wheat sowing continues, and large-field sowing has already begun. As of 20 April, more than 22 million mu of wheat had been sown, 2 million mu more than the comparable period last year. Five million mu of large fields have already been sown, also representing 2 million mu more than the comparable period last year. Due to the effects of waterlogging, in the eastern and central parts of the province, several state farms and brigades could not get their machines into the fields during the early part of the season, thus wheat sowing was set back. Most recently, there have been high temperatures and no rain. Every unit did a round-the-clock crash job of sowing and progress quickened noticeably. In these several days, the daily rate of wheat sowing reached approximately 700,000 mu, faster by 200,000 mu over the same period last year. At present, there are already 32 counties and cities which have completed the task of wheat sowing. The wheat seedlings on land sown early have already come up, and their growth is good. Large-field sowing in the three prefectures of Songhuajiang, Suihua and Nenjiang has already been carried out completely. In the western section of the province, spring rains generally fell in the middle 10 days of April, somewhat alleviating the signs of drought. Quite a few communes and brigades utilized the natural moisture content of the soil to assiduously carry out sowing. The daily sowing rate of progress in Suihua Prefecture doubled over the corresponding period last year. In addition to continually organizing forces to drain the waterlogged fields, some of the communes and brigades whose fields suffered serious waterlogging, in Hejiang and Mudanjiang Prefectures and the eastern part of Songhuajiang Prefecture, actively pursued rush planting using the method of planting the hills first and the low-lying areas later and planting an area as soon as it dried. Thus they managed to sow additional fields before the spring rains. These two areas have already sown 300,000 mu.

CSO: 4007/4116

HENAN

BRIEFS

ANTIDROUGHT WORK--Henan Province has whipped up an upsurge in combating drought. Some 200,000 sets of machinery and 7,583 mechanical and electrical irrigation stations in the whole province have been utilized to carry out activities of combating drought, irrigating wheat, sowing spring crops and protecting seedlings. The province has irrigated wheat on 11.72 million mu and late fall crops on 6.5 million mu. Shangqiu Prefecture, has planned to irrigate wheat on 2.5 million mu and has basically completed its plan. According to the statistics of Anyang, Shangqiu, Kaifeng and Xuchang Prefectures, these four prefectures have sent some 30,000 cadres to embark on antidrought work. Xinxiang prefectural CCP Committee held its standing committee meeting on antidrought work. [Zhengzhou Henan Provincial Service in Mandarin 1100 GMT 13 May 81]

CSO: 4007/415

BRIEFS

RAPESEED OUTPUT--Jingzhou Prefecture in Hubei has reaped a bumper rapeseed harvest this year. The total rapeseed output has reached 630,000 dan, or 3.6 times higher than last year and 59 percent higher than 1979, the previous peak year. [OW270045 Wuhan Hubei Provincial Service in Mandarin 1100 GMT 18 May 81]

CSO: 4007/415

BRIEFS

RAPESEED PRODUCTION--Shaoyang Prefecture of Hunan Province has reaped a bumper harvest from its 580,000 mu of rapeseed. The total output of rapeseed is expected to exceed 50 million jin, or tripling that of last year. [Changsha Hunan Provincial Service in Mandarin 2315 GMT 14 May 81]

COUNTY RAPESEED PRODUCTION--In 1980, Longshan County in Hunan Province harvested 69,000 dan of rapeseed, 31 percent more than the previous year. The total rapeseed output of the county this year has increased more than 10 percent over last year. [Changsha Hunan Provincial Service in Mandarin 1100 26 May 81]

CSO: 4007/415

BRIEFS

PEANUT PRODUCTION--By 13 May, Xuzhou and Huaiyin Prefectures, the major peanut producing areas in Jiangsu Province, had sown peanuts in 649,000 mu, 250,000 mu more than in the same period last year. The sown acreage is over 80 percent of the planned target for this year. [OW211149 Nanjing Jiangsu Provincial Service in Mandarin 1100 GMT 16 May 81]

COTTON TRANSPLANTATION--Rudong County, Jiangsu, has completed cotton transplantation of 440,000 mu of wheat field. Commune members in the county are strengthening field management of cotton seedlings. [Nanjing Jiangsu Provincial Service in Mandarin 1100 GMT 19 May 81]

DROUGHT SPELL--Five hundred forty thousand of the 910,000 mu of cotton seedlings in Qidong and Haimen counties in Jiangsu Province are not growing too well due to a dry spell in the area. The Nantong Prefectural CCP Committee and the prefectural administrative office have organized nine work teams and sent them to various communes in the two counties to help commune members combat drought and strengthen cotton field management. [Nanjing Jiangsu Provincial Service in Mandarin 2300 GMT 19 May 81]

COMMUNE MEMBERS' INCOMES--A survey conducted by 71 agricultural economic investigation centers in 22 counties of Jiangsu among 985 rural households in 1980 shows that commune members' incomes from collective, household sideline production and other sources all increased although agricultural production dropped. Their per capita income was 217.9 yuan, 17.7 yuan or 8.8 percent over 1979. Of this total, the portion obtained from the collective increased 3.3 percent and that from sideline production 10.9 percent over 1979. The combined income from sideline production and other sources accounted for 36.4 percent of a commune members' total income compared with 33 percent in 1979 and income from the collective accounted for 63.6 percent of a commune member's total income compared with 67 percent in 1979. However, the commune members' household sideline production largely concentrated on domestic animal breeding and individual farming while handicraft activities were merely 1/7 of the 1962 level. This shows that much can be done to further develop commune members' household sideline production in Jiangsu. [Nanjing Jiangsu Provincial Service in Mandarin 2300 GMT 22 May 81]

RAPESEED OUTPUT--Jiangsu Province has reaped a bumper harvest of rapeseed this year. It is estimated that total output will top last year by more than 30 percent. Since the implementation of production responsibility systems last winter, commune members show more enthusiasm in cultivating rapeseed. Total acreage under rapeseed exceeds 4 million mu in province, with more than 1 million mu in Suzhou Prefecture. [Nanjing Jiangsu Provincial Service in Mandarin 1100 GMT 25 May 81]

CSO: 4007/415

BRIEFS

RAPESEED OUTPUT--Jiangxi Province has set a record this year in rapeseed production. The total output from the 4.71 million mu of rapeseed acreage this year is 50 percent higher than last year. [Nanchang Jiangxi Provincial Service in Mandarin 1100 GMT 17 May 81]

HYBRID RICE CONFERENCE--The Jiangxi Provincial Scientific and Technical Committee recently held a provincial conference on coordination in the scientific research of hybrid rice at the Pingxiang Municipal Agro Science Institute to set forth new tasks for the research in cultivating better high-yield, pest-resistant rice seedlings in 1981 and the 6th 5-year plan. Thanks to keen attention of party committees at all levels and coordination among agro science research departments since 1973, Jiangxi has achieved great economic results in cultivating triple cropping rice paddy. From 1975 to 1980, the province planted a total of 35.5 million mu of hybrid late rice. [Nanchang Jiangxi Provincial Service in Mandarin 1100 GMT 27 May 81]

CSO: 4007/415

RECORD LIAONING GRAIN, SOYBEAN OUTPUT

Shenyang LIAONING RIBAO in Chinese 20 Mar 81 p 1

[Article: "The Most Recent Figures From the Provincial Bureau of Statistics Show: Last Year, the Provincial Production of Grain and Soybeans Reached an All-Time High"]

[Text] The most recently published "Statistical Data for Liaoning Province" of the provincial Bureau of Statistics shows that in 1980, due to reliance on policies and science, the production of our countryside achieved an all-round comprehensive bumper harvest in which the total output of grain and soybeans reached an all-time high. Output reached 24.43 billion jin, an increase of 550 million jin over the great bumper harvest of 1979. Of grain crops, rice output was 4.71 billion jin, an increase of 470 million jin over last year. Both the total output and the per unit yield were at an all-time high. Soybean output was 1.07 billion jin, an increase of 15.20 million jin over 1979. This ranks 1980 as the second highest year in soybean production since 1965.

On the average, there have been rather large increases throughout the province in the production of such economic crops as cotton and oil-bearing crops. Cotton output was 427,000 dan, an increase of 109,000 dan over 1979. Average yield per mu was an all-time high of 74 jin. Output of oil-bearing crops for the entire province reached 5,651,000 dan, an increase of 64 percent over last year's great bumper harvest and an all-time high. The output of peanuts, an oil-bearing crop, was 2,749,000 dan, an increase of 57.1 percent over last year. This was the second most productive year since 1960. Sunflower production reached an all-time high of 2,628,000 dan. Sugar beet production was 2,545,000 dan, an increase of 80.1 percent over last year, also an all-time high. Flue-cured tobacco production was 447,000 dan. Although this represents a slight decrease in production as compared with last year, the yield per mu reached 342 jin, an increase of 19.2 percent over last year.

There was also an all-round development in the forestry, animal husbandry, sideline production, and fishing industries. Provincial tussah silkworm cocoon output reached an all-time high of 1,133,000 dan, an increase of 32.5 percent over last year. In other areas, the number of live pigs removed from inventory and the number of sheep in inventory at year's end, increased respectively by 10.7 percent and 16.5 percent over last year.

CSO: 4007/4118

BRIEFS

GRAIN OUTPUT--Suburban areas and the two counties under the jurisdiction of Shenyang Municipality, Liaoning Province, handed over to the state 1.34 billion jin of marketable grain in 1980, an increase of 27.4 percent over the 1979 figure. These areas had a total grain output of 2.68 billion jin in 1980. They handed over to the state about 50 percent of their grain output as marketable grains, surpassing the national average proportion of marketable grains. [SK212254 Shenyang Liaoning Provincial Service in Mandarin 1100 GMT 20 May 81]

PRIVATE PLOTS--Qingyuan County, Liaoning Province, has enlarged its private plot acreage for commune members from 36,524 mu to 60,296 mu since early 1981, accounting for 14.1 percent of the county's total farmlands. The average private plot acreage occupied by each peasant increased from 0.14 mu to 0.23 mu. [SK230834 Shenyang Liaoning Provincial Service in Mandarin 2200 GMT 22 May 81]

PROSPEROUS BRIGADE--LIAONING RIBAO on 25 May gives frontpage prominence to a report introducing a brigade in (Yuhong) District, Shenyang Municipality, Liaoning Province, which has emerged as one of the richest brigades in the province. In 1980 the brigade boasted of a total income of 5.46 million yuan which, after setting aside 1.78 million yuan as collective accumulation, was distributed among its members at 565 yuan per capita. The aggregate bank deposits of the brigade members now total over 1 million yuan. Every household has surplus grains, and everybody has cash in hand. The 880 radios and TEP televisions. Twenty-eight households have already moved into new houses. The chief reason for the brigade's prosperity is its success in instituting economic reforms, improving management and developing a diversified economy. [SK251135 Shenyang Liaoning Provincial Service in Mandarin 2200 GMT 24 May 81]

PADDY FIELDS--Shenyang Municipality, Liaoning Province, has virtually completed this year's transplanting of paddy rice. As of 27 May, the municipality had transplanted 1.15 million mu of paddy fields, fulfilling 97 percent of the transplanting plan. [SK281315 Shenyang Liaoning Provincial Service in Mandarin 1100 GMT 28 May 81]

CSO: 4007/415

NINGXIA

INCREASED SLAUGHTER OF CATTLE AS RESULT OF DROUGHT IN NINGXIA REPORTED

Yinchuan NINGXIA RIBAO in Chinese 26 Mar 81 p 2

[Article by Li Cuiying [2621 5488 5391] and Wang Licheng [3769 4409 2052]: "Clearing of Inventories on All Categories of Cattle in Ningxia-Hui Autonomous Region Sets All-Time Record"]

[Text] Statistics for the statistical year in agriculture show that during 1980, more than 761,000 head of cattle of all kinds were cleared out of inventories in the Ningxia-Hui Autonomous Region. The 17.3 percent inventory clearance rate made 1980 an all-time high year for the clearance of cattle from inventory.

Last year, Yanchi and Tongxin counties, which raise a fairly substantial proportion of the cattle in the region, experienced serious drought. Grassland production of hay declined tremendously, and fattening of cattle was poor. All echelons of leadership took a thorough look at the situation, investigated and studied, and summarized the lessons of experience of the past when objective conditions were ignored in a one-sided effort to keep on hand as many cattle of all categories as possible, with the result that many cattle died of starvation in the spring. They took action to combat drought and maintain the livestock through "increasing hay by reducing livestock and looking after them," propagandizing the cadres and masses to increase the slaughter rate, and in the great importance, particularly in a drought year, of increasing the slaughter rate. Before the onset of winter, communes and brigades in the disaster area removed for processing old, weak cattle and adult wethers unlikely to survive the winter and the spring, preserving breeding stock and draft animals to be carried over into spring. Experience has shown this method greatly beneficial. Since the inventory clearance rate is high, the amount of table meat and cattle byproducts increases, and both the collective and individual earnings in communes and brigades increase. Additionally, this also promotes readjustment of the composition of cattle herds, and rational use of the range, thereby helping development of the cattle raising industry. Last year, the region had 2.14 million head of sheep in inventory, the highest number ever recorded, and 66.5 percent of the total number of sheep and goats. The number of mature ewes also rose from last year's 42.9 percent to 50.7 percent. The number of cattle being fed in the region also increased by 6.4 percent. The number of cattle being fed in the region also increased by 6.4 percent over the previous year. As a result of the appropriate decrease in inventories, the number of cattle supported by the grasslands fell, creating good conditions for the winter and spring grazing of the livestock. In addition, with the further implementation of policies for the raising of livestock by families, the number of commune-member raised livestock spurted. Last year commune member raising of all categories of livestock including hogs, cattle and sheep and goats amounted to 2.01 million head, a 43 percent increase over 1979. Growth of the livestock industry and the increase in clearance of livestock inventories provided society with increased amounts of table meat and livestock byproducts. Last year the region's output of beef, lamb and pork increased by 6.89 million jin over 1979, an average 10.2 jin per capita, and a 1.7 jin increase over the previous year. Output of hides of all kinds increased 24.4 percent over 1979, providing light industry with more raw materials.

9432
CSO: 4007/345

IMPROVEMENT OF FREEZE SEMEN IN NINGXIA HUI AUTONOMOUS REGION

Yinchuan NINGXIA RIBAO in Chinese 21 Mar 81 p 1

[Article by Gao Wenji [7559 2429 1015], Zhao Weixin [6392 4850 2450], and Yu Cheng [0151 2052]: "Ningxia-Hui Autonomous Region Scores Success in Use of Freeze Semen to Improve Ox Breed; Improved Livestock Varieties Increase Amount of Table Beef to Satisfy Needs of City and Village Dwellers"]

[Text] Ningxia-Hui Autonomous Region has scored success in the use of freeze semen to improve oxen breeds.

This work began as a pilot project in 1977. After the region's stud bull station went into operation in June 1978, this meant formal expansion of artificial insemmination techniques for the improvement of oxen using superior specie frozen bull semen. Now, 39 oxen improvement sites have been set up in 12 counties throughout the region. In the production of beef animals, the region's breeding bull stations have used more than 92,400 frozen pellets of semen from Shorthorn and Simmental bulls, and have produced more than 9,500 liters of liquid nitrogen, both to satisfy demands within the region and to help other provinces and regions. As a result of the increase in the number of sites for breeding through the use of frozen semen, more than 2,400 head of oxen were bred with frozen semen last year, an almost twofold increase over the previous year, and a 13.5 fold increase over 1978. Quality of frozen semen breeding has also gradually improved.

Results from the use of frozen seemen to improve oxen breeds have been good. In the more than 500 head of first generation hybrid cattle bred from frozen semen during the past 3 years, hybrid heterosis is apparent. Body shape of improved breed breed calves is beautiful to behold. Their bodies are well-proportioned, their backs straight, their four limbs sturdy, and their growth excellent. First generation hybrids from Simmental cattle have a body weight of more than 410 jin at 1 year of age, and first generation hybrids from Shorthorn cattle have a body weight at 1 year of age of about 270 jin, both being much heavier than native varieties of oxen at 1 year of age.

Work in the improvement of oxen through use of freeze semen has earned the serious attention of leaders everywhere. Last year Tongxia, Helan, Lingwu, Wuzhong and Jingyuan counties gave strict attention to oxen improvement work, expanding the number of their freeze semen breeding sites, and adopted the aggregate estrus technique, making the rounds of each site to give demonstrations and guidance, and do more breeding. Some counties and cattle farms prescribed a system of prizes for breeding, which was promptly honored. Both the cadres and the masses in some places did not understand or believe in freeze semen breeding, so the counties organized cadres and cattle raisers to hold on-site meetings at freeze semen breeding sites, or at units where use of freeze semen for breeding had been done well, to increase the understanding of the cadres and the masses. In this way, some counties overfulfilled their freeze semen breeding quotas, and both the number of oxen bred with freeze semen and the number of improved breeds of calves born increased.

9432
CSO: 4007/345

NINGXIA

NINGXIA SUGAR OUTPUT REPORTED AT ALL TIME HIGH

Yinchuan NINGXIA RIBAO in Chinese 16 Mar 81 p 1

[Article by Yang Zhaohai [2799 0340 3189]: "Ningxia-Hui Autonomous Region Sugar Output at All-Time High During 1980-1981"]

[Text] Ningxia-Hui Autonomous Region sugar enterprises had a successful 1980-1981 production year. Statistics from the departments concerned in the region show that the two sugar refineries in the region produced a total of 8,728 tons of sugar for an all-time high in the region's output of sugar, with the Yinchuan Sugar Refinery producing 8,295 tons for a two fold increase in output over the top year of 1975. This multiple increase in sugar output has meant self-sufficiency with sugar to spare for the people in cities and villages throughout the region.

The Yinchuan Sugar Refinery, with a 500 ton daily sugarbeet processing capacity, went into production in 1970 since which time it had an insufficient supply of sugarbeets. Sugar output continued to hover around the 2000 ton mark. With the further implementation last year of the party's economic policies for rural villages and a rise in prices paid by the state for the purchase of sugarbeets, output in the Yellow River diversion irrigated area shot up, and the Yinchuan and Pinglo sugar refineries last year purchased 67,000 tons of sugarbeets. Once the sugarbeet supply was ample, the period of effective production for the Yuanchuan Sugar Refinery rose from 54 days in 1975 to 126 days. This refinery also improved upon its reserve storage procedures for raw materials so that the rate of loss declined to 0.65 percent of what it had been in 1975. In order to increase output capacity, they also improved numerous weak links in the production process, thereby increasing the daily processing of sugarbeets from the 416 tons of the 1975 production period to about 520 tons. Last year the newly constructed and operated Pinglo Sugar Refinery, with a daily processing capacity of 100 tons, lacked real experience and technical forces when it first began production, so the Yinchuan Sugar Refinery sent five master workers to render assistance, thereby assuring the smooth operation of this refinery.

9432
CSO: 4007/345

GOOD SPRING PLANTING OFFERS HOPE FOR BUMPER HARVEST

Xian SHAANXI RIBAO in Chinese 1 Apr 81 p 1

[Article: "With Good Policies and Timely Rain, Cadres and Commune Members Are Determined To Seize Bumper Harvests; Spring Planting in the Whole Province Has Been Better Than in Previous Years"]

[Text] The busy productive activity of spring planting and planting preparations has already begun throughout our province. In southern Shaanxi, where the seasons come early, potatoes are being sown. In central Shaanxi and northern Shaanxi, fertilizing, raking the soil, preserving moisture, and similar work are actively being carried out. The broad masses and cadres of the farm villages have the good policies of the party Central Committee, the spring rain has come in time, spirits are high, happiness is everywhere, and there is full confidence that there will be overall bumper harvests in this year's agricultural production.

The several major links in spring planting and production this year have all been done better than in previous years. Throughout the entire province, cotton has been planted in 3.85 million mu, surpassing the plan by 50,000 mu. Of this, the area for seedling cultivation and transplanting can reach 608,000 mu, a twofold increase over last year. There are more first-type and second-type seedlings of wheat and rape than in previous years; there are more tillers and the colonies are sufficient because of previous efforts to tightly grasp resistance to drought, spring irrigation and preservation of moisture, and fine field management. Up to 25 March, the entire province had forested 1.332 mu., 223,000 mu more than in the same period last year. The number of young trees and trees planted on the "four sides" is also larger than in the same period last year. Spring rain covered the entire province prior to Ching Ming [5 April], creating favorable conditions for the normal growth of wheat and rape and the timely sowing of cotton and early autumn crops.

The good spring situation is a concrete reflection of the good political and economic situation in the farm villages. First of all, there is the implementation of the production responsibility system in agriculture. From the start, the socialist enthusiasm latent in the broad masses and cadres was brought out. Of the more than 34,200 cotton planting teams throughout the province, 70 percent of the teams established as the key the production responsibility system of taking joint production down to the laborer.

Implementation of the production responsibility system, which all the cadres of the Tangping Commune in Ningshaan County grasped by going down to the teams, resulted in a participation of 90 percent of the male laborers and over 70 percent of the female laborers. After implementation of the production responsibility system for cotton planting at the Tielu Commune in Lintong County, the enthusiasm of the commune members for cultivation of cotton seedlings and transplanting ran high. The county ordered this commune to transplant 500 mu, but transplanting actually can be implemented to cover 700 mu. Fugu County in northern Shaanxi suffered from disasters last year, so the country committee and the country revolutionary committee grasped relief from disaster and arrangement of the life of the masses, pleasing the people of the entire county, and thus preparations for spring sowing were carried out in a fine manner.

Now, large groups of cadres transferred from the province, localities, and counties are all active in the broad numbers of farm villages. They are actively propagandizing the implementation of the spirit of the party Central Committee's work conference and the third conference of the provincial committee cadres, they have joined the commune members and masses to eradicate the influence of "leftist" ideology, and they are concretely carrying out the activities of spring planting and production.

9296
CSO: 4007/380

HANZHONG PREFECTURE WHEAT STRIPE RUST DISEASE

Xian SHAANXI RIBAO in Chinese 1 Apr 81 p 1

[Text] Agricultural science and research units in Hanzhong Prefecture have organized agricultural technology cadres in a timely manner to go deep into the frontline of production and grasp the control of wheat stripe rust disease as an important task in spring planting and production. Up to the present, 200,000 mu of the entire region have been treated with the farm chemical sodium p-aminobenzene sulfonate to control wheat stripe rust disease. This has controlled the spread of the disease.

Recently, the agricultural departments conducted a survey of Mianxian, Hanzhong, Nanzheng and Chenggu counties. There were 210,000 mu of wheatfields that suffered from stripe rust disease, or 16 percent of the wheatfields of the entire area. The percentage of diseased leaves of slightly damaged wheat was about 10 percent. The percentage of diseased leaves of the few seriously affected reached 60 percent. The major characteristics of the control of wheat stripe rust disease in Hanzhong Prefecture are the following: 1) The initiative was taken early. Mianxian, with the goal of eradicating the source of the stripe rust disease virus during the early state, held plant protection meetings in time and conducted rust disease prevention field meetings at the Maobao Brigade in Dingjun Commune. Therefore, diseases fields covering 17,000 mu throughout the county were twice controlled in time. 2) Surveys were conduted and key localities were grasped in order to control the fields. It was discovered in that prefecture that abo and ganmai No 8 were wheat varieties easily affected by the disease. Therefore, in controlling rust disease, these wheatfields were first inspected and controlled. 3) The efficiency of the farm chemical was tested. To improve the technique of using sodium p-aminobenzene sulfonate, the plant protection and plant inspection stations of Hanzhong Prefecture dispatched scientific and technical personnel to the diseased wheatfields of Zhoujianshan Commune in Mianxian in a timely way to test the effectiveness of the farm chemical. They added 1 jin of sodium p-aminobenzene sulfonate to 200 jin of water. First, they used small amounts of hot water to dissolve the chemical. Then they added the remaining amount of water and at the same time added two or three liang of clothing detergent to the solution. This method of dilution can fully dissolve the chemical and increase the effectiveness of the chemical solution. Therefore, prevention effectiveness was increased from 30 percent to over 70 percent.

9296
CSO: 4007/380

LARGE EXPANSION OF AREA DEVOTED TO TOBACCO PLANNED

Xian SHAANXI RIBAO in Chinese 27 Mar 81 p 2

[Article by Liu Zhenglao [2692 2973 0525]: "Develop Our Province's Production of Flue-Cured Tobacco"]

[Text] Our province has a history of over 40 years of flue-cured tobacco production, but the speed of development has been slow. In 1980, tobacco covered 47,000 mu; the total yield was 114,000 dan, constituting only 30 percent of the annual requirement of 300,000 dan of tobacco leaves throughout the province. Tobacco factories have for a long period relied upon raw materials brought in from other provinces. The source of merchandise is not assured, however, and each year the outward flow of capital amounts to over 2 million yuan. This situation should attract the attention of departments concerned.

Does our province's flue-cured tobacco have a future for development? The answer is affirmative. Our province's natural conditions share the common characteristics of the northern tobacco regions. The soil texture, amount of rainfall, and sunshine are all suitable for the needs of growing flue-cured tobacco. Chemical analysis of the internal quality of the flue-cured tobacco produced shows that it is not only at the same level as that of the flue-cured tobacco of the major producing provinces of Henan and Shandong, but some major indicators even surpass their quality. Take zhongsi tobacco, for example. We find that the total sugar content of the Shandong tobacco is 20.03, that of Henan is 9.59, and that of our province is 22.35. The smoke value of Shandong tobacco is 2.55, that of Henan is 0.96, and that of our province is 3.05. The nicotine content of Shandong tobacco is 2.67, that of Henan is 0.84, and that of our province is 0.60. In general, the beneficial content is high and the harmful content is low. In recent years, because of adjustments in the distribution and because scientific management of tobacco was grasped, the quality has improved year after year. In 1980, the entire province purchased over 104,000 dan of tobacco leaves. High-grade tobacco constituted 1.37 percent, an increase of 54.8 percent over 1978; medium-grade tobacco constituted 46.92 percent, an increase of 24.3 percent; and low-grade tobacco constituted 24.51 percent, a 34-percent decrease. Throughout the province, tobacco that produced black ash and remained poorly lit was eliminated. Yellow tobacco continued to increase and green tobacco decreased. Viewed from its geographic position, our province has superior natural conditions when compared to the northwestern provinces and regions of Gansu, Qinghai, Xinjiang, and Inner Mongolia. Our province has a unique environment for the development of production of flue-cured tobacco. This is where our province's superiority lies. In the future, our province's flue-cured tobacco production will definitely catch up and will be able to satisfy the needs of our province.

Which localities in our province are better suited to the development of flue-cured tobacco? The Weibei Plateau is a new tobacco region that has been developed in recent years in our province. The counties of Luochuan, Yichuan, Heyang, Baishui, Chengcheng, Yongshou, Binxian, and Chunhua have already been designed base counties for the production of high-grade flue-cured tobacco in the province. These counties have a history of 4 or 5 years of planting tobacco. In the future, a flue-cured tobacco zone should gradually be established in the Weibei Plateau. There are many favorable conditions. One is that the natural conditions are suitable for planting flue-cured tobacco. According to the meteorological data of the 10 years from 1961 to 1970, the temperature in this region during the period of prosperous growth and maturation of tobacco leaves remains between 18 and 20 degrees. During the growth period in the large fields from May to September, the amount of rainfall is above 400 millimeters. The soil is mostly yellow cultivated loess soil and beishan soil. The soil structure is good, the nitrogen content is low, and the ratio of phosphorus and potassium is high. These factors all coincide with the growth characteristics of flue-cured tobacco. The second advantage is the fact that the planting area is large. According to the statistics of Binxian and the other seven counties where tobacco is planted, the amount of cultivated land is 3.7 mu per capita, and the current tobacco fields constitute only 0.56 percent. In the future, this area can be expanded to about 10 percent without competing with food grain and cotton crops for land. The third is the fact that the resources of coal are rich, and thus favorable for baking and curing tobacco leaves. The fourth is the high enthusiasm of the masses for planting tobacco. The Weibei area has few economic crops, and the income level is low. Planting flue-cured tobacco generally reaps 150 yuan per mu and can reach over 400 yuan, equivalent to four or five times the income from food grain crops. Therefore, development of flue-cured tobacco in these localities has a reliable mass foundation. The fifth is the good quality of the tobacco leaves. Tobacco leaves produced in these localities are bright yellow in color, the oil content is rich, the texture is fine, the fragrance is strong, the bitterness is not strong, burning is appropriate, the ash is relatively white, and the leaves are better in quality than those of the old tobacco regions of the Weihe, the banks of the Huanghe, and the west. The quality of the tobacco leaves produced last year in Yichuan County was among the best in the province. High- and medium-grade tobacco constituted 54.7 percent of the amount purchased by the authorities, yellow tobacco constituted 79.4 percent, and green tobacco constituted only 20.6 percent, meeting the requirements issued to the base counties by provincial and higher authorities.

The production of flue-cured tobacco is characterized by a short production cycle, quick results, smaller land requirements, and large income. Each mu of flue-cured tobacco, from agricultural to industrial production, can yield over 1,000 yuan. The production of flue-cured tobacco each year in the province alone can yield an income of over 100 million yuan. Last year, Binxian planted 13,000 mu of tobacco leaves and reaped an income of over 1.84 million yuan, constituting 25.6 percent of the total income from agriculture. The country plans to expand [tobacco production] to 50,000 mu by 1985, yielding an income of 10 million yuan, or 50 percent of total income from agriculture, although tobacco fields will constitute only 7 percent of total cultivated land. If all base counties develop to this level, the entire province can derive an income of over 400 million yuan. This would change the economic situation of the tobacco regions, open up new sources of wealth, and contribute importantly to the building of the four modernizations.

9296
CSO: 4007/380

BRIEFS

PIG RAISING--Xian, 18 May (XINHUA)--More than 95 percent of rural families in Fufeng County, Shaanxi Province, are raising pigs. Each household raises an average of more than 2 pigs. During the past several years, the total number of pigs in the county has been maintained at about 100,000. [OW211431 Beijing XINHUA Domestic Service in Chinese 0054 GMT 18 May 81]

CSO: 4007/415

BRIEFS

AGRICULTURAL PRODUCTION--The 39 electric pumping stations and 4,880 motor-pumped wells in Dongping County, Shandong Province, have made great contributions to combating drought. As of 15 May, some 310,000 mu of wheatfields in the county were irrigated 3 or 4 times and the sowing of 296,000 mu of spring crops were finished. In addition, some 80,000 mu of potato fields and 80,000 mu of cotton fields are under replanting. [Jinan Shandong Provincial Service in Mandarin 2300 GMT 20 May 81]

FORESTRY WORK--Wulian County, Shandong Province, has accelerated construction work in mountain areas. In the past 2 years, some 130,000 mu of mountain areas have been transformed, some 127,000 mu of land have been afforested and some 47,000 mu of land have been cultivated as orchards. At present, the county has some 700,000 mu of afforested areas. The construction of forestry has given an impetus to the development of agriculture, animal husbandry and sideline production. Compared with 1978, the 1980 county grain output increased by 10 percent, total peanut output increased by 70 percent, hog numbers increased by 11.8 percent and commune members' per capita distribution increased by 65.7 percent, averaging 136 yuan. [Jinan Shandong Provincial Service in Mandarin 2300 GMT 20 May 81]

WHEAT HARVEST--Ye County, Shandong Province, is actively engaging in preparatory work for reaping this year's wheat with harvesters. The county plans to reap 560,000 mu--72 percent of the county's wheatfields--with harvesters. Ye County is one of the province's pilot counties in farm mechanization. It has 1,200 wheat harvesters. [SK251144 Jinan Shandong Provincial Service in Mandarin 2300 GMT 24 May 81]

CSO: 4007/415

LATE SEASON RICE PROTECTED FROM COLD BY SPRAYING LEAVES

Shanghai JIEFANG RIBAO in Chinese 6 Apr 81 p 2

[Article by correspondent Chen Bingkui [7115 3521 1145]: "New Way To Prevent Damage to Paddy Rice From Low Autumn Temperatures; Crop Institute of Shanghai Agricultural Sciences Academy Successfully Uses Leaf Surface Thermal Insulation Agent"]

[Text] There is a new way to prevent damage to paddy rice by autumn's low temperatures. The crop institute of the city's Agricultural Sciences Academy has used a leaf surface thermal insulation agent as a new technique. After experimentation in over 10,000 mu of ricefields in 18 provinces, cities, and autonomous regions, late season rice sprayed in a timely manner produced an average increase of about 10 percent over crops that were not sprayed. Recently, this new technique was officially evaluated and recognized by concerned specialists in this city and elsewhere.

Low autumn temperatures are the major meteorological threat to late season rice. Once the paddy rice is affected by low temperatures, the percentage of empty and semifilled grains is high and the yield is visibly reduced. In 1976, the Ministry of Agriculture listed "prevention of autumn low temperature damage of late season rice" as a key research subject and requested the Shanghai Agricultural Sciences Academy to intensify research and seek a breakthrough. Liu Jiasen [0491 1367 2773] and other scientific and technical personnel of the academy's crop institute conducted much research and repeated experiments for many years, and proposed the use of a leaf surface thermal insulation agent to prevent damage from low temperatures. The leaf surface of the paddy rice stems was sprayed with the diluted solution of Changfeng No 3 leaf surface thermal insulation agent. After it dried, an artificial film was formed evenly over the surface of the leaves of the stem. The film can suppress evaporation of moisture from the leaves of the stem, thus retaining a higher temperature within the plant. In sunny weather, the highest average temperature within the plant can reach 2.4 degrees Centigrade. After its use, the percentage of empty and semifilled grains dropped noticeably.

This type of leaf surface thermal insulation agent is a kind of high molecular emulsion. Its use is convenient, its results are good, but it is produced in small amounts at present. In the future, after mass production, the cost per mu will be about 4 jiao.

9296
CSO: 4007/389

BRIEFS

SUBURBAN SUMMER HARVESTING--According to JIEFANG RIBAO, progress has been made in the summer harvesting in suburban Shanghai. As of 25 May, some 1.28 million mu of barley and wheat and 200,000 mu of rape have been harvested. [Shanghai City Service in Mandarin 2300 GMT 27 May 81]

CSO: 4007/415

LOANS TO SOME COMMUNE-RUN ENTERPRISES STOPPED

Chengdu SICHUAN RIBAO in Chinese 18 Feb 81 p 2

[Article: "Stimulate Commune Enterprise Readjustment and Put a Stop to Blind Construction and Duplication of Construction"]

[Excerpt] Our country's local agricultural banks have brought credits thoroughly into play as an economic lever, and while supporting the expansion of commodity production by commune-run enterprises and the broadening of commodity circulation, they have stopped issuing loans to some commune-run enterprises which have no sources of raw materials, have no market for their products, compete with large industries for raw materials or energy, or have operated at a loss for long periods, so as to induce them to close, cease production, combine or change over to new production, and to encourage some new enterprises from unjustifiable or duplicated construction, thereby decreasing waste and loss of funds.

In 1980 the agricultural banks stopped issuing loans to commune-run enterprises accounting for 3 percent of all commune-run enterprises receiving loans. These enterprises all had serious problems with regard to production, supply or sales, had suffered large losses and had no way of reversing the trend, or were not on a good competitive footing and would become an increasingly serious burden if allowed to continue. Accordingly, the banks proceeded to stop loan funds so as to induce the enterprises to close, stop production, merge or change production. Last November, after investigation, the Guanghan County agricultural bank decided to stop making loans to 5 large commune-run enterprises and to report on the circumstances to the country party committee, suggesting that the relevant departments immediately reorganize these enterprises. The county party committee fully supported the bank's fund cutoff and instructed the relevant departments to carry out a reorganization. The Xiangyang Iron Works had a total investment of 1.2 million yuan and an annual output of 10,000 tons of iron. Its iron ore had to be shipped from Xide County, and there was no local market for the product, so that it had to be sold outside the country. People called it an enterprise which "got its materials from a thousand li away and sold its products a thousand li away," in addition to which it had to have its losses made good by the financial organizations (the subsidies were stopped last year), and it owed the bank 288,000 yuan in loans. The Zingyang Joint Agricultural-Industrial-Commercial Company decided to stop production at the iron works.

8480
CSO: 4007/320

EXPERIMENTAL AERIAL PHOTOGRAPHY SOIL SURVEY CARRIED OUT

Chengdu SICHUAN RIBAO in Chinese 21 Feb 81 p 1

[Article: "Our Province's First Experimental Aerial Photography Soil Survey Work Concludes"]

[Text] Experimental aerial photography soil survey work, carried out by the Sichuan Province Soil Survey Office in Dazu County, was recently concluded. The Southwest Agricultural Institute, the Sichuan Agricultural Institute, the office of soil fertility of the provincial institute of agricultrual science, and the provincial geological bureau, relevant specialists and scientific and technical personnel who had participated in the national aerial photography soil survey, Chongqing Municipality, Jiangjin, Wanxian, Nanchong, Neijiang, Yibin, Leshan, Mianyang, Ganzi, Aba and Liangshan prefectures and autonomous prefectures, and a total of over 50 soil fertility technology cadres from 31 counties and municipalities were asked to participate in the work. This country's eminent soil scientist Professor Hou Guangjiong [0230 0342 3518] came at the beginning to give on-the-spot guidance, and gave a scientific and technical report on soil fertility and soil survey field methods to the comrades of the experimental team and to relevant leadership and technical personnel in the county agricultural system. The experimental work lasted 50 days and carried out an aerial photography soil survey of Chengdong Commune, Dazu County and produced eight documents including an aerial photography soil survey report for the entire commune, a summary of aerial photography interpretation techniques, and special reports and photographs.

This experiment made it possible to work out in preliminary form the methods for using aerial photography for soil surveys, trained key technical personnel for aerial photography soil surveying, identified Chengdong Commune's soil resources, brought to light some problems and causes affecting the development of agricultural production, and provided data for rational land use by the commune, for agricultural capital construction, for soil improvement and for scientific planting; the results were welcomed by local cadres and commune members. At the same time, it will stimulate modernization of this province's soil survey techniques, accelerate the pace of soil surveying and soil resource investigations, further improve the quality of soil surveying, provide more precise data for agricultural zoning and agricultural capital construction, and decrease the quantity and toilsomeness of field work.

8480
CSO: 4007/320

RESEARCH ON METHANE PRODUCTION ACHIEVES GOOD RESULTS

Chengdu SICHUAN RIBAO in Chinese 1 Feb 81 p 2

[Article: "An Important Scientific Advance in Methane Fermentation"]

[Text] The scientific research program on using a variety of effective technical approaches to improve the methane productivity and raw materials utilization rate of rural methane tanks which was jointly carried out by the Methane New Energy Sources Research Laboratory of the Southwest Normal Academy and the Qu County Methane Research Station has achieved highly satisfactory results.

This program was valued highly by the provincial scientific committee and the provincial methane office, and in 1978 was included among the province's key scientific research programs. These two organizations carried out 453 tests in bottles, cans and methane tanks, measurements on maceration in heaps, gas analyses and the like, obtaining more than 10,000 pieces of data, produced 7 progress reports, and last year carried out production tests. They implemented six specific measures: 1) They suitably decreased volume, increased the concentration of the fermenting liquid, used a concentration of about 10 percent dry solid material in winter and 5 percent in summer. 2) They changed over from pretreatment outside the tank to brief dry fermentation in the tank and sprinkling with water at 50°C to increase the liquid temperature. 3) They maintained a suitable carbon-nitrogen ratio of 20 or 30 to 1 and a pH of 6.5 to 7.5. 4) They selected and mixed the fermentation materials on the basis of local conditions. 5) They inoculated the mixture with 5 percent fermentation residue to provide a bacteriological mix. 6) They regularly added and removed materials, adding dry material and removing spent material, and adding 5 percent of raw material every 10 days to maintain the relative concentration of the fermentation liquid. By taking these steps, they achieved an excellent economic effect. First, they increased the gas production rate, raising the effective gas volume per cubic meter by from 57 to 100 percent over ordinary tanks. Second, because there was no preparation outside the tank, they increased the raw materials utilization rate by 10 to 50 percent. Third, by increasing the concentration, the methane fertilizer output was increased 100 percent over ordinary tanks and more than 50 percent of the labor of carrying liquid methane fertilizer was saved. Last November, at an evaluation meeting held in Qu County and presided over by the provincial methane office, the project results were evaluated by relevant research and college and specialized school personnel, who concluded that the method was simple and suitable for dissemination in the countryside and rated the results as excellent.

8480
CSO: 4007/320

SICHUAN

MIANYANG RICE PRODUCTION OUTLOOK SURVEYED

Chengdu SICHUAN RIBAO in Chinese 8 Feb 81 p 1

[Article: "Mianyang Prefecture Resolves To Obtain Another Bumper Harvest of Rice This Year"]

[Text] Mianyang Prefecture has taken timely steps and has made preparations to plant more rice and increase the unit yield, and is energetically striving to reap another bumper rice harvest this year.

In 1980, Mianyang Prefecture's 4,621,400 mu of rice paddy had a 23.5 percent increase in output, and the unit yield set an all-time record, while the increase in output was much greater than that for any other grain. In order to achieve another increase in rice output this year, and to accomplish the assignment of increasing the output of all grains throughout the year, this prefecture recently held an experience-exchange meeting on the major 1980 spring-sown crops. Some 550 agronomists and some basic-level leadership cadres participated. They concentrated on analyzing favorable conditions and unfavorable factors for this year's rice production. The amount of stored water in the prefecture is greater than last year, which is favorable for increasing the rice paddy area. The prefecture's water storage facilities have stored more than 1.3 billion square meters, up more than 300 million square meters from last year, and in addition to this, mechanical and electric pumps were used to provide irrigation water in winter and spring, so that it is entirely possible for the prefecture to plant 200,000 to 300,000 mu of paddy rice more than last year. Last year the prefecture had 2.27 million mu of hybrid rice, 49 percent of the total rice acreage, and the yield per mu reached 990 jin, some 200-300 jin higher than the yield for conventional rice. This was enthusiastically welcomed by the masses, who have already grasped cultivation techniques for hybrid rice, and this year it is possible to increase the area planted to hybrid rice from 2.27 million to 2.80 million mu. But there are many negative factors in rice production as well, primarily the fact that the output of conventional rice when transplanted late is low, while in some areas there are fields with stunted seedlings which give even lower yields. The question of how to increase their per-unit yield is an extremely important one for rice production. Accordingly, the prefecture's agricultural society organized scientific and technical personnel dealing with rice production to study reform in rice seedling culture and the colony structure of rice that yielded 1,000 jin per mu. They also studied key technical measures for late transplantings and for fields with stunted seedlings. The prefecture party committee believes that these measures are practicable, and has organized the various localities to take the following three steps towards their implementation: 1. All levels must give effective training in techniques and implement this year's technical measures for increasing rice output. The prefecture is to conduct training down to the county level, the county down to the ward and commune level, and the communes down to the production team level, so that every production team has a person trained in the techniques for rice and can use them effectively. Currently, training at the county level and above has been essentially completed throughout the prefecture. 2. Farm land capital construction should be accelerated, and increased quantitites of organic and phosphate fertilizers should be applied to increase output from low-yield fields. 3. Various types of production responsibility systems should be instituted and perfected and sufficient labor should be assured for paddy rice production so that meticulous, intensive cultivation can be carried out and steady, high yields realized.

8480
CSO: 4007/320

BRIEFS

AGRICULTURAL PRODUCTION--By early May this year, the masses in Xinjiang Autonomous region completed sowing more than 21 million mu of various crops, accounting for 70 percent of sowing tasks of the spring and summer. The figure represents an increase of 740,000 mu as compared with the same period last year. The progress in this year's spring sowing is due to the implementation of the party's rural policy and good leadership at various levels. [Urumqi Xinjiang Regional Service in Mandarin 1620 GMT 15 May 81]

CSO: 4007/415

YUNNAN

BRIEFS

RAPESEED PRODUCTION--Yunnan Province has reaped a good harvest of rapeseed this year. According to initial statistics, the total output has reached more than 80 million jin or 23 percent increase over 1980. Due to a reasonable readjustment of purchasing price for rapeseed, Yunnan Province was able to increase its rapeseed production by largest margin in the past 2 years. [Beijing Domestic Service in Mandarin 1200 GMT 15 May 81]

SUGAR OUTPUT--Kunming, 2 May (XINHUA)--Yunnan Province has set a record in cane sugar production this year. Total output reached 187,000 dun, an increase of 15,000 dun or 9.3 percent. The increase is attributed to the implementation of the party's economic policy and the measures adopted by the provincial CCP Committee and people's government, which greatly aroused people's initiatives to grow sugarcane and produce more sugar. [Beijing XINHUA Domestic Service in Chinese 0116 GMT 20 May 81]

CSO: 4007/415

CAREFUL USE OF CHEMICAL FERTILIZERS BOOSTS PADDY YIELDS

Nitrogenous Fertilizer Application

Hangzhou ZHEJIANG RIBAO in Chinese 31 Mar 81 p 2

[Article by Yin Daoming [1438 6670 2494] of the Soil Fertility Institute of the Provincial Agricultural Sciences Academy, and Wang Weiguo [3769 0251 0948] of the Yuyao County Agricultural Bureau: "Opinion on the Application of Nitrogenous Chemical Fertilizer for Paddy Rice in Northern Zhejiang Plains"]

> [Text] Editor's Note: Following publication of the article "The Problem of Unbalanced Proportions in the Application of Fertilizer for Paddy Rice" by this paper on 23 February, many people have responded. Many scientific workers have written to point out that this is an important issue in attaining bumper harvests of food grains this year. They suggested that each locality must pay attention to the scientific use of fertilizer. The two articles written by Yin Daoming [1438 6670 2494] et al have been selected and published below as a reference for all.

The Zhejiang Plain is our province's main rice-producing region. In recent years, the supply of chemical fertilizer (especially nitrogenous chemical fertilizer) has increased drastically, and this has had a favorable effect upon increasing yields of paddy rice. But in some places, too much nitrogenous chemical fertilizer has been applied. This not only prevents the nitrogenous chemical fertilizer from fully developing their gains, but frequently it causes the paddy rice to remain green, to mature late, to lodge, and to suffer from widespread diseases and insect pests. Therefore, in the application of nitrogenous chemical fertilizer, the more the better is not good. The amount must be kept to a reasonable figure in order for the fertilizer to be fully effective.

Results of scientific research have shown that of the nutrients absorbed by crops that grow well, two-thirds come from the soil and one-third comes from fertilizers. Fertility of the soil takes the lead in producing high and stable crop yields. The content of organic matter in the soil of our province generally is less than 1.5 percent. The content of organic matter in the ricefields of the northern Zhenjiang Plain can generally reach 3 percent. Take the widely distributed green purple mud as an example: without applying fertilizer, the yield of the early and late season paddy rice crops can reach over 900 jin per mu. This shows that the fertility of the soil is high.

In soil of such high fertility, what is the effect of single applications of nitrogenous chemical fertilizer? The results of single applications of ammonium sulfate (5 jin of ammonium sulfate converts to 1 jin of pure nitrogen; 40 percent serves as base manure, while 60 percent serves as sidedressing) in seven types of typical paddy rice soils in the Yuyao Plains are shown below:

Early Rice

Amount of fertilizer applied (jin/mu)	None applied	10 jin pure nitrogen	15 jin pure nitrogen	20 jin pure nitrogen	25 jin pure nitrogen
Average yield (jin/mu)	565	716	711	694	657
Increase of rice per jin of pure nitrogen (jin)	---	14.7	9.6	6.3	2.8

Late Rice

Amount of fertilizer applied (jin/mu)	None applied	10 jin pure nitrogen	15 jin pure nitrogen	20 jin pure nitrogen	25 jin pure nitrogen
Average yield (jin/mu)	450	538	537	515	503
Increase of rice per jin of pure nitrogen (jin)	---	8.8	5.8	3.3	2.2

This shows that 10 to 15 jin of pure nitrogen applied to each mu is the most suitable amount. When the amount of pure nitrogen applied per mu surpasses 15 jin, the cost is overly high, and sometimes the yields will decrease.

According to results of other experiments comparing the various proportions of nitrogen, phosphorus, and potassium and comparative experiments of various proportions of organic and inorganic fertilizers, the effects of increasing the application of organic fertilizers and phosphorous and potassium fertilizers are better than single application of nitrogenous chemical fertilizer, but 10 to 15 jin of total nitrogen per mu still produces the best results.

Therefore, we believe that when organic fertilizer is scarce, application of nitrogenous chemical fertilizer, calculated on the basis of the amount of pure nitrogen, should not surpass 15 jin per mu. Where there is more organic fertilizer, the amount of nitrogenous chemical fertilizer should be appropriately reduced. At the same time, attention must be paid to applying a definite amount of phosphorous and potassium fertilizer so that better results can be obtained in the form of increased yields.

Proper Proportions

Hangzhou ZHENJIANG RIBAO in Chinese 31 Mar 81 p 2

[Article by Zhu Xiuqiao [4555 0208 0829] of the Provincial Agricultural Sciences Academy: "High-Yielding Paddy Rice Requires Rational Application of Fertilizer"]

[Text] Last year, we conducted experiments and research in soil and fertilizers in high-yielding paddy fields in the plains of Yinxian and Qiuyi. The soil fertility of the localities was relatively high. The content of organic substances reached 5.28 percent to 6.74 percent. Total nitrogen reached as high as 3.55 to 4.23 per thousand. After conducting experiments using different amounts of nitrogenous fertilizer, the results showed that the best amount of nitrogen applied for early and late rice was 15 jin, per mu, and that each mu of paddy rice required 75 jin of ammonium sulfate per season. The yields were not high when the amount applied was less, and when too much was applied, serious diseases and insect pests resulted, the plants lodged, and the yields decreased. Regardless of whether it was early rice or late rice, the best results were obtained by combining organic and chemical fertilizers. With the application of 75 jin of ammonium sulfate per mu, 2,000 jin of rotted hog barnyard manure were added. This produced 829.5 jin of early rice and 830 jin of late rice, while a single application of 75 jin of ammonium sulfate produced only 805 jin of early rice and 793 jin of late rice. As the amount of fertilization increased, the superiority became more outstanding when it was combined with organic fertilizers and the amount of chemical fertilizers was appropriately reduced. This enabled the rice seedlings to grow in a stable and healthy manner without becoming too prosperous. There were few diseases and insect pests, the plants resisted lodging, and the yields increased. At the same time, an appropriate combination with the application of phosphorous and potassium chemical fertilizers also increased the yields. In experimental fields having relatively high fertility at the Yinxian Agricultural Science Institute, the application of nitrogen, phosphorus, and potassium chemical fertilizers in the proportion of 2:1:1 produced 875 jin of early rice--an increase of 8.7 percent the yield of fields given a single application of nitrogenous fertilizer. In the experimental fields with ordinary soil fertility at the Wangchun Commune in Yinxian County, the combining of nitrogenous fertilizer with potassium and phosphorous fertilizers produced visibly higher yields. As the amount of nitrogenous fertilizer increased, the increases produced by combined application with phosphorous and potassium fertilizers were even greater.

9296
CSO: 4007/372

EXPERIMENT PRODUCES HIGHER YIELD OF FISH IN PONDS

Hangzhou ZHEJIANG RIBAO in Chinese 15 Mar 81 p 1

[Article by the Third Department of the Provincial Science Committee: "The Provincial Fresh Water Aquatic Products Research Institute Engages in Scientific Reserach Based On Production Needs; Experiment in Producing High Yields in Cultivating Fish in Ponds Is Welcomed by the Masses"]

[Text] The Fresh Water Aquatic Products Research Institute of Zhejiang Province has determined the content of scientific research based on the needs of production, emphasized economic results, and succeeded in the experiment to produce high yields in cultivating fish in ponds. In 1980, the institute conducted extensive experimental demonstrations of techniques to produce high yields in the five counties (cities) of Hangzhou, Yuhang, Deqing, Wuxing, and Changxing, where communes and brigades engaged in cultivating fish but with different levels of production. The 10 experimental demonstration ponds produced a net average per mu of over 1,800 jin of fresh fish, the highest reaching over 2,000 jin, about fives times the average per mu yield of over 300 jin in ponds used for fish cultivation throughout the province. The experimental ponds produced an average per mu net income of 443.40 yuan, the highest reaching over 500 yuan, realizing increased yield and increased harvest. This technical achievement has been widely welcomed by the production units.

Our province's Hangjia Lake region has a total of 160,000 mu of ponds. Average unit yield is relatively low, so the potential for increased yield is great. To solve the problem of increasing the unit area yield, the provincial Fresh Water Aquatic Products Research Institute began work in 1977 and selected the Nanzhi production brigade of Xiaang commune in Wuxing County as the test locality for studying techniques to produce high yields. For several years, an experimental pond of over 6 mu produced a stable per mu yield of around 2,000 jin. A fish pond of 3 mu produced a stable per mu yield of above 2,500 jin. Under the impetus of the high-yield experiment, a fish pond of over 40 mu of this production brigade produced increased yields in total production of adult fish continuously for 3 years; the average per mu yield increased from 781 jin to over 1,280 jin. In 1980 income from fishery reached 30,000 yuan. During the course of the experiment, the advanced nature of the technique, feasibility of production and economic suitability were unified. For this, various data were conscientiously recorded, and in particular the number of fish varieties, yield and revenue and expenditure were listed in separate columns in order to facilitate comparison before and after the experiment. The production units could clearly see the key techniques to produce high yields and the economic gain. This helped popularize the techniques.

9296
CSO: 4007/368

MEASURES TO DEVELOP COTTON, BAST FIBER PRODUCTION GIVEN

Hangzhou ZHEJIANG RIBAO in Chinese 20 Mar 81 p 1

[Article by Shao Xiaozheng [6730 2556 1767] and Huang Caijun [7806 6845 0689]: "Implement Policy of Achieving Bumper Harvests in Cotton and Bast Fibers This Year; Provincial Cotton and Bast Fiber Production Conference Studies How To Further Increase Cotton and Bast Fiber Production"]

[Text] How can our province's cotton and bast fiber production be developed to provide more raw materials for light industries and the textile industry? The provincial cotton and bast fiber production conference held recently held that the party economic policy for farm villages should be conscientiously and thoroughly implemented continuously to establish and perfect the agricultural production responsibility system, starting out by increasing unit yield to further increase our province's cotton and bast fiber production.

Since the Third Plenum of the party Central Committee, the state has established policies and measures concerning cotton and bast fiber production and procurement which have effectively stimulated the development of cotton and bast fiber production. This year, the State Council and the provincial people's government established new policies and measures while keeping the state purchasing policy currently in force. In cotton production, the base amount of food grains and cotton sufficient for sale and reward has been determined. Starting in 1981, the planned amount of state procurement established by contract between our province and the Ministry of Agriculture, the Supply and Marketing Cooperative and the Ministry of Food Grains signed in 1980 is taken as the base amount of food grains and cotton for sale and reward. Each surplus jin of ginned cotton produced is to be rewarded by 2 jin of food grains. In the production of bast fiber nets, starting this year the base amount of procurement of bast fiber nets must be established. Prices of surplus can be marked up 30 percent. The conference held that implementation of these policies and measures will further mobilize the enthusiasm of the masses and stimulate increases in the yield of cotton and bast fibers. Comrades attending the conference expressed the belief that to achieve bumper harvests of cotton and bast fibers this year, the production responsibility system must be established by suiting measures to local circumstances and must be strengthened. The responsibility system of contracting work to professional enterprises and calculating wages according to joint productive work is suitable for implementation in either old or new cotton and bast fiber producing regions. In scattered cotton and bast fiber regions where the area of food grains is large and the area of cotton and bast fiber is smaller, this responsibility system is especially suitable. Everyone also expressed the belief that the production responsibility system of contracting work in small segments and calculating wages according to fixed quotas is versatile, simple and convenient. Many commune brigades also combined contracting work in small segments to groups and delegating certain farm work responsibilities to the laborer, making it easy to unify and divide. This has strengthened implementation of the system of calculating wages according to fixed quotas, and the quality of farm work has been further assured. Comrades who attended the conference expressed their wish to conscientiously summarize the experience and lessons, to continue to eradicate "the leftist" influence and to further perfect the production responsibility system.

The conference also held that in order to completely implement the guidelines in agricultural production, the area of planting cotton and bast fiber must be sufficient in accordance with state plans. Technical training must be conducted on a wide basis to improve the level of scientific planting of cotton and bast fiber.

9296
CSO: 4007/368

BRIEFS

AGRICULTURAL PRODUCTION--As of 8 May, people in rural Zhejiang Province had transplanted 8.26 million mu of early rice, or 48 percent of the target for transplanting of early rice. By 10 May, Ningbo Prefecture had already completed transplanting 1.02 million mu of early rice. [Hangzhou Zhejiang Provincial Service in Mandarin 0400 GMT 17 May 81]

SPRING TEA HARVEST--As of 15 May, Zhejiang Province had already procured 688,500 dan of spring tea leaves, 25,700 dan more than last year's procurement up to the end of May. It is expected that the total output this year will increase by at least 10 percent. [Hangzhou Zhejiang Provincial Service in Mandarin 0400 GMT 20 May 81]

CSO: 4007/415

END

END OF FICHE

DATE FILMED

18 JUNE 81